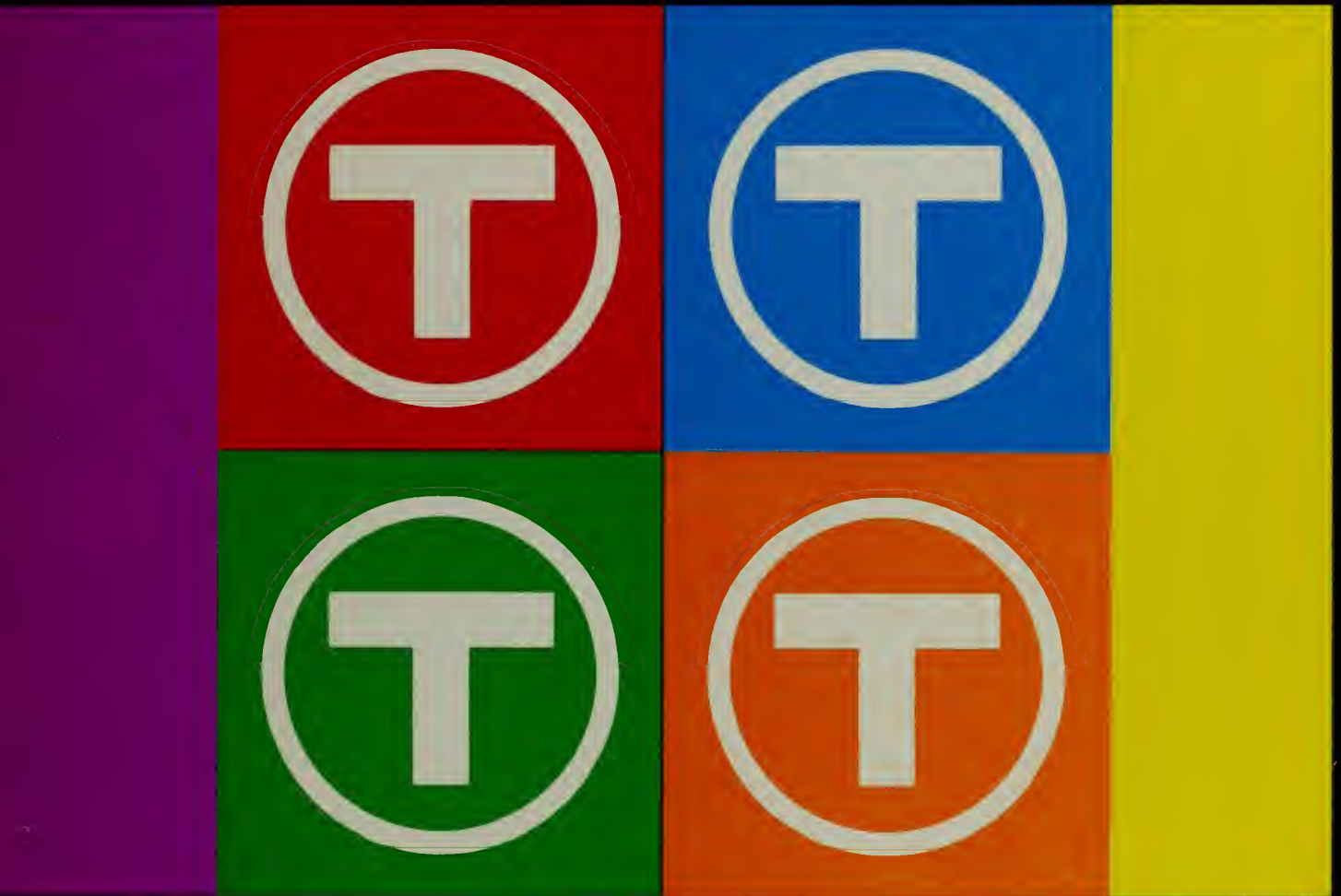


MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

MANAGEMENT REPORT



Transition of
JANUARY 1983

**MASSACHUSETTS
BAY
TRANSPORTATION
AUTHORITY**

50 High Street, Boston, MA 02110

January 21, 1983

Mr. Frederick P. Salvucci
Secretary
Executive Office of Transportation
and Construction
One Ashburton Place
Boston, MA. 02108

Dear Secretary Salvucci:

I am pleased to present to you a Management Report on the status of the MBTA. This is an informational document designed to both acquaint the reader with the present operations of the system and to identify the complex issues confronting us as public transportation managers in the region.

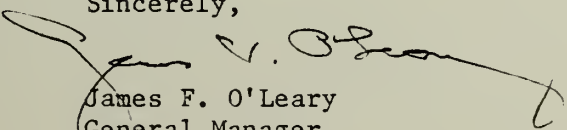
In 1982, the MBTA made real progress in delivering a safe, reliable transportation service. For example.

- Bus and train service has been expanded; and, with the January 1983, timetable, a further increase is planned;
- Ridership is growing steadily with more people using the MBTA each day;
- Buses, trains, and stations are noticeably cleaner;
- 97.4% of scheduled trips are being met, and further improvement is planned;
- With the implementation of Management Rights, 700 fewer employees are providing more service;
- Operating costs at the MBTA have stabilized.

Clearly, improvements are being made, and we have just begun.

In January of 1983, state government in the Commonwealth will undergo a transition, and many new professionals will assume responsibility and address the problems confronting transportation. This office is ready to assist in the process, and MBTA staff will provide additional data and briefings, as deemed appropriate.

Sincerely,



James F. O'Leary
General Manager

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

MANAGEMENT REPORT

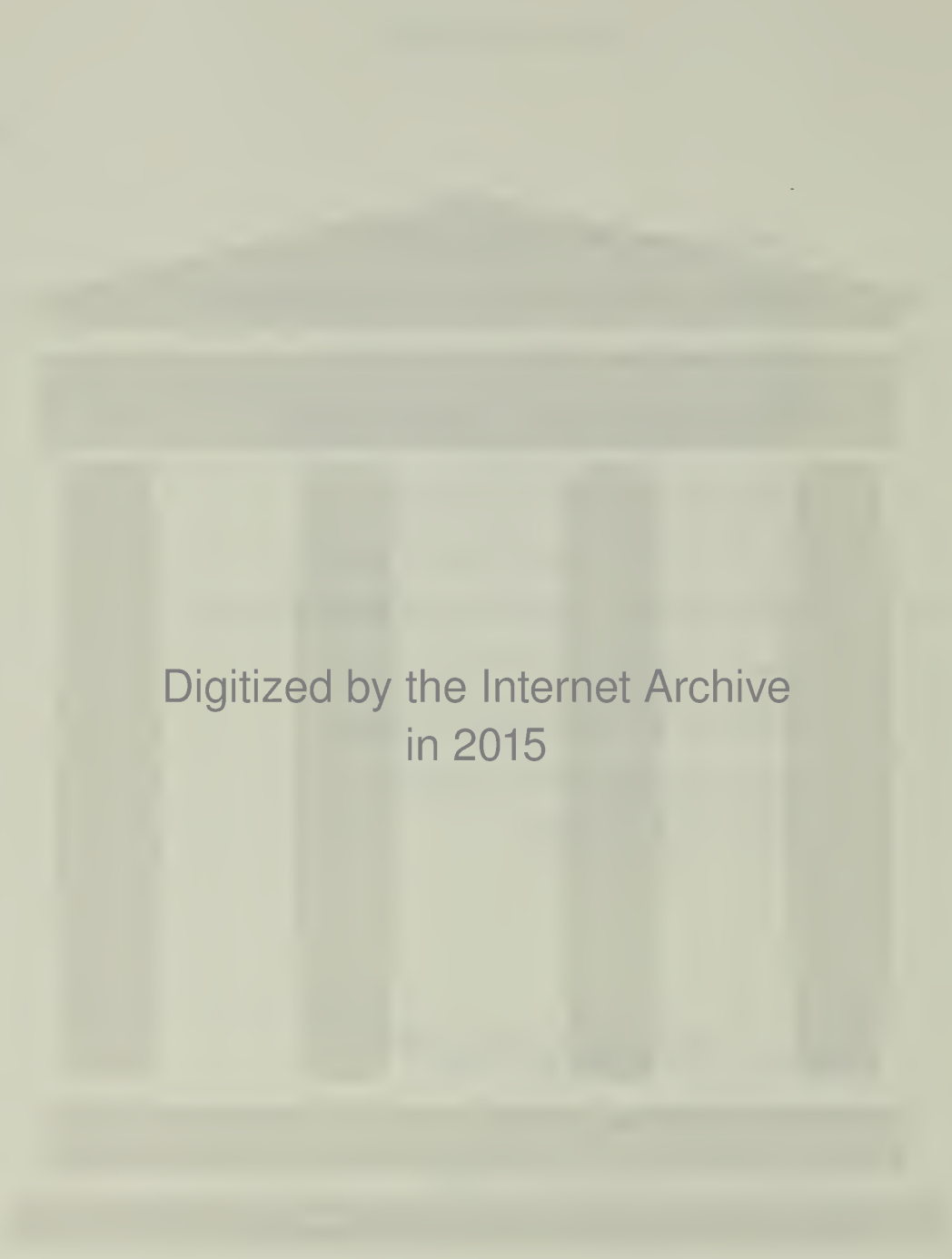
Transition of January 1983

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INTRODUCTION TO MBTA ORGANIZATION

CHAPTER I

The Massachusetts Bay Transportation Authority, known as the (T), is a complex operating and regulatory agency which provides rail and bus transportation to the 79 cities and towns of eastern Massachusetts. Throughout its history, the population of the region--particularly, the Greater Boston area--has depended heavily upon the (T) for daily commuting to and from work, schools, and recreation. Over one half million trips are made daily; and, for the first time in many years, the system is experiencing an increase in ridership.

The MBTA is an agency with a difficult, but extremely important mission. The service it provides has far-reaching ramifications, not only in a transportation sense but on the economy of the Commonwealth via employment and development opportunities. The rebuilding of the MBTA into a strong and reliable provider of transportation is an integral step in the creation of a strong economic climate here in the Commonwealth.

This Management Report has been prepared for informational purposes. It is designed to acquaint the reader with the MBTA, the tasks confronting management, and the programs/progress underway to strengthen the agency.

The organization of the agency is extremely complex. Six thousand and sixty-three (6,063) employees are structured into eleven departments. A seven-member Board of Directors, chaired by the Secretary of Transportation and Construction, sets policy; such policy is carried out by the General Manager and 265 Executive personnel.

To understand the mission of the MBTA, it is, perhaps, easiest by examining the following summary of pertinent facts:

The (T) operates:

- o 1050 buses on 152 bus routes over 680 miles
- o 74 streetcars/125 LRVs on 5 routes over 70 miles
- o 354 rapid transit cars on 3 lines over 84 miles
- o 50 trackless trolleys on 4 routes over 32 miles
- o 176 commuter railroad vehicles over 500 miles

Provides service for:

- o 495,000 daily trips on the basic (T) system
- o 39,000 daily trips on commuter railroad system

Maintains:

- o Stations, Lobbies, Waiting Rooms
- o Shops, Garages, Carhouses
- o Power Stations, Substations
- o Storage and Service Buildings
- o Subway Tunnels, Elevated Structures
- o Bridges, Culverts, Viaducts
- o Offices

Directs:

- o \$2 billion in new construction programs

Deals with:

- o 29 collective bargaining units

Monitors and controls annual budgets of:

- o Approximately \$367,000,000 to operate the system
- o Approximately \$200,000,000 for expansion and modernization programs.

The basic MBTA system is a network of rapid transit and surface rail facilities extending into the cities and towns comprising the MBTA district. Table 1-1 shows a schematic of the MBTA rail lines. Supporting this rail corridor is an intricate bus routing system which ties together crosstown travel.

To carry out the daily responsibilities of the agency, a strong organization and chain of command has been instituted. The MBTA must maintain high standards and operating procedures to assure the riding public a safe operating system. Table 1-2 provides an overview of the MBTA's departmental structure. The remaining discussion in this Chapter will focus upon the role and responsibilities of each of these departments.



Table 1-1

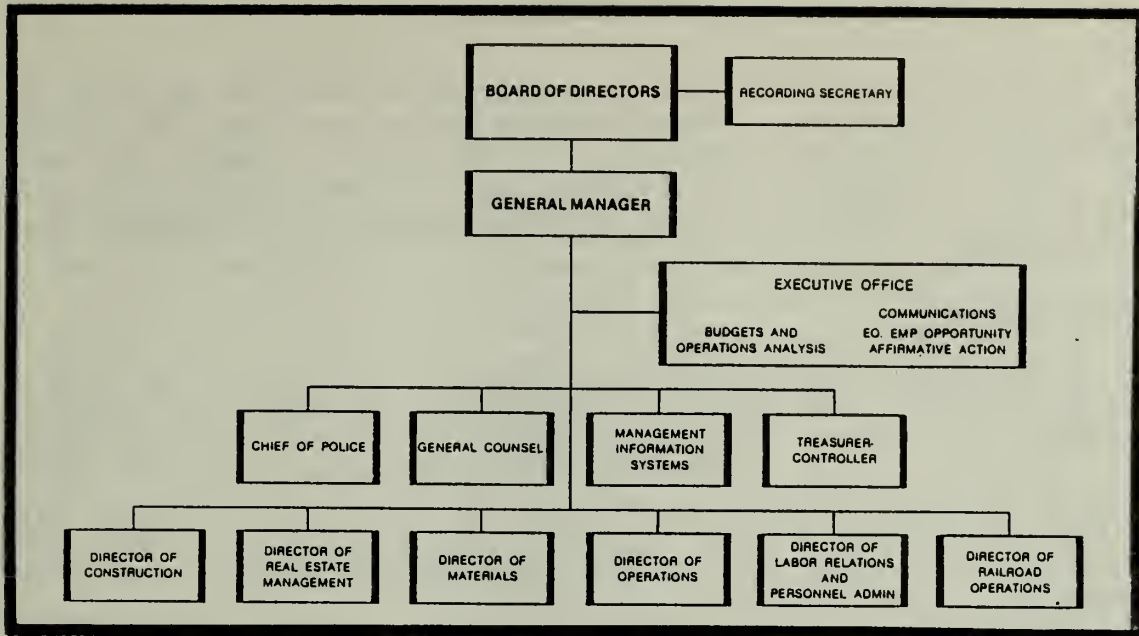


Table 1-2

Board of Directors

The MBTA Board of Directors is a group of seven individuals appointed by the Governor to set policy for the MBTA. The Secretary of Transportation and Construction presides over the Board of Directors and their meetings as Chairman. This group serves coterminously with the Governor, and each represent a distinct geographic area or constituency. For example:

- o One member of the Board requires the approval of the entire Advisory Board;
- o One requires the approval of the original inner 14 cities and towns comprising the MBTA district;
- o One must have the approval of the 64 cities and towns comprising the outer district;
- o One of the members shall be experienced in transportation;
- o One appointee shall represent organized labor and be a member of a national or international labor organization;
- o One member shall be experienced in administration and finance.

Additionally, no more than four of the seven directors shall be members of the same political party, and two of the appointees must be residents of the area outside of the MBTA district.

Generally, the Board meets bi-monthly to review and approve proposals of the General Manager regarding significant management decisions, investments and expenditures.

Board Meetings are called by the Chairman or whenever requested by two or more than two Directors. Board Meetings are generally held in the Directors' Conference Room on the ninth floor of 50 High Street, Boston, and are open to the public. A small staff of professional support personnel is assigned to the Directors' Office to assist in administering and documenting the affairs of the Board.

General Manager

The General Manager is the Chief Executive Officer of the MBTA and provides leadership and direction to all MBTA activity. He provides daily management and control of all MBTA transportation functions, business activity, property matters, personnel, and miscellaneous programs necessary to provide reliable and safe transportation service to the 79 cities and towns. At meetings with the Board of Directors, the General Manager recommends policy actions and programs for improving the operations and management of the Authority.

To fulfill these responsibilities, the Board of Directors has granted to the General Manager the authority to organize and reorganize departments, hire and fire personnel, set wages, and enter into contractual agreements and change orders not exceeding \$50,000.

Executive Office

The Executive Office consists of a group of professionals comprising the Office of Budgets and Operations Analysis, the Office of Equal Employment Opportunity and Affirmative Action (EEO/AA), and the Communications Directorate. Table 1-3 displays the organization of this office. Each of the areas has specific support responsibilities and is accountable to the General Manager.

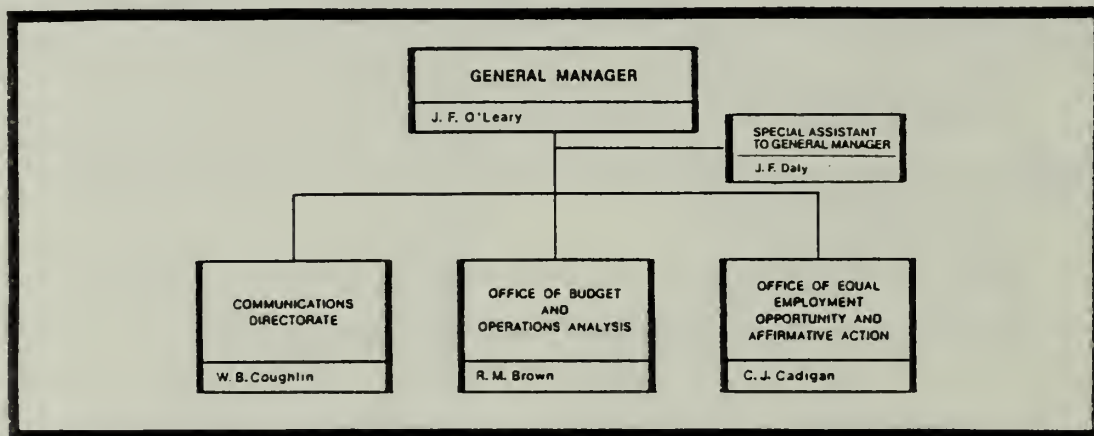


Table 1-3

The Office of Budgets and Operations Analysis reviews, prepares, and monitors the Authority's operating budget. This office is responsible for the budget process and ensuring that programs are cost effective, affordable, and correspond to the priorities set by the General Manager. The office also assists the General Manager and departments in setting formal standards, goals, and objectives for management and service performance.

The Office of Equal Employment Opportunity/Affirmative Action is responsible for the development and implementation of the Authority's Affirmative Action Plan. The EEO/AA Office's primary objectives are to ensure that the Authority is in compliance with federal and state regulations, and to assist each department in reaching the goals set forth in the Affirmative Action Plan. The office also acts as the liaison for the Authority to federal and state agencies, as well as to community and technical assistance groups that are interested in minority/female/handicapped issues.

The Communications Directorate is the Authority's centralized communications network. The Directorate consists of: Media Relations, Public Affairs & Information, and Sales & Marketing. The primary responsibility of the Communications Directorate is to provide accurate and timely information to the media and the public concerning service conditions, construction activities, fare and service changes, and new MBTA policies and programs.

The Media Relations staff is on duty 24 hours a day, 7 days a week to provide information to the media and the riding public.

The Public Affairs and Information Office responds annually to approximately 8,000 consumers and consumer groups' written and telephone concerns and arranges for public forums in the 79 cities and towns.

The Sales and Marketing Division continues its efforts to encourage employers in the Greater Boston area to introduce the Variable Work Hours Program to their employees. Over 300 employers, representing some 90,000 workers, have converted from the nine to five work schedule to a more flexible program which relieves rush hour congestion on the system. Another vital part of this division is the MBTA Pass Program, which continues to grow through its sale of passes to participating employers, banks, educational institutions, and post offices. The sale of passes represents a monthly revenue of more than \$2 million.

Operations Directorate

The Operations Directorate plans and supervises the coordinated activities of all line departments involved in the production of public transportation for the Authority. Major responsibility areas include Transportation, Operations and Service Planning, Scheduling, Safety and Training, Rail Equipment, Automotive Equipment Maintenance, and Engineering and Maintenance. Table 1-4 reflects the organization of this Directorate.

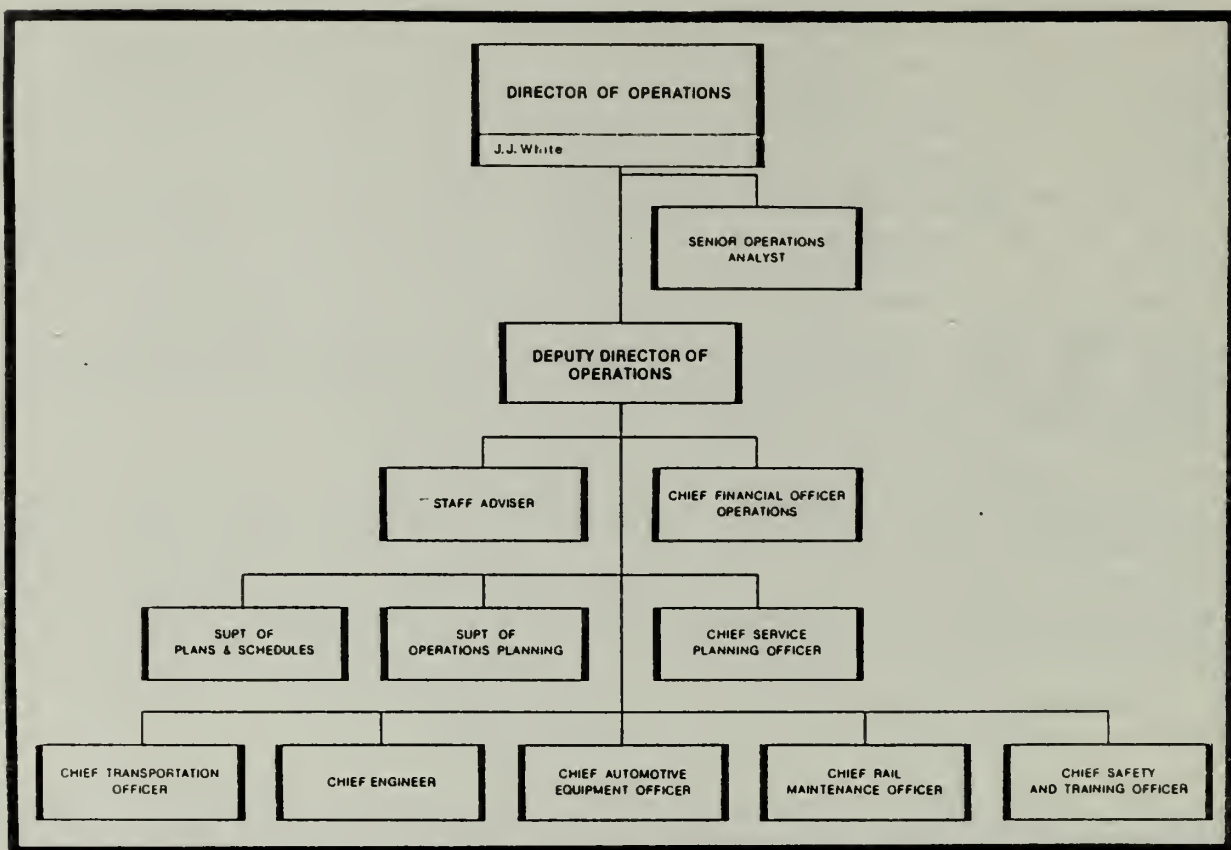


Table I-4

The Director of Operations sets operating and maintenance priorities; coordinates the allocation of resources and work assignments; monitors the departments' performance, productivity, and attainment of objectives; provides analytic and fiscal technical support to its divisions; prepares and evaluates operating plans, including schedules for bus, streetcar, trackless trolley, and rapid transit service; approves or disapproves all service changes; and conducts studies on procedural or operating changes designed to improve the efficiency and quality of service.

The Office of the Director of Operations consists of the Operations Planning Department, the Plans and Schedules Department, the Service Planning Department, and the Safety and Training Department.

- o Operations Planning provides support to the Director of Operations and the individual operating divisions and makes policy recommendations concerning Authority fares, special efforts, and service needs.
- o Plans and Schedules prepares service plans, vehicle schedules, public timetables, and operator, motorman, and guard runs for all MBTA-operated rapid transit, light rail, bus, and trackless trolley routes. The plans, schedules, and manpower assignments are developed on a quarterly basis.

- o Service Planning functions as the short range transit planning group of the Authority. Efforts are concentrated on evaluation, and modification of services operating within the MBTA District. This office presides over the Authority's Service Committee, a body which has been designated to review all proposed service changes and to recommend which warrant implementation. The Service Planning Office is also involved with the management and evaluation of private carrier services. The responsibility of the office is to assure that the public is provided with a coordinated network of transit services. The Special Needs section of Service Planning represents the interests of the physically disabled and disadvantaged. This unit develops and monitors the MBTA's special efforts to serve the handicapped, and helps insure that the Authority is responsive to the handicapped. This section also developed and directs THE RIDE project, a specialized dial-a-ride service for handicapped people.
- o The Safety and Training unit is responsible for maintaining and developing effective programs and procedures which are essential to a safe environment for Authority employees and passengers. This section acts as a conduit for safety information between departments and agencies within and outside of the Authority. Inspection, investigation, and training personnel, are critical elements of the total accident prevention effort overseen by this Division.

Transportation Department

Operators of the rapid transit, streetcars, and buses, and all the other personnel who directly provide or support MBTA service comprise the Transportation Department.

The Department is divided into three major sections: the Surface Lines Division, the Rail Lines Division, and the Central-Reservoir District. The Surface Lines Division operates the Authority's bus and trackless trolley lines. This Division includes six rating stations (Bartlett, Cabot Center, Bennett, Salem, Lynn, and Quincy). A rating station is an administrative unit composed of operators and management personnel. It operates from one or more garages and provides service to routes in the surrounding area.

The Surface Lines Division is overseen by the Superintendent of Surface Lines. Starters and Inspectors supervise surface operators for proper work practices, personal appearance, courtesy, and operation of vehicles. This Superintendent also has jurisdiction over the operations of the vault agents, who have responsibility for the collection of deposited fares and the transfer of those fares to the Revenue Department.

The Rail Lines Division includes the Authority's three rapid transit lines: the Orange Line, the Red Line, and the Blue Line. Each rail line area is supervised by a District Supervisor and Assistant District Supervisor. Other supervisory personnel include train starters, who monitor the train schedules and implement extra service when required.

The Central-Reservoir District (Green Line) includes Reservoir streetcars, which serve the Riverside, Beacon Street, Commonwealth Avenue and Arborway lines. The Central Subway consists of the stations from Kenmore to Lechmere, and the Huntington Avenue stations of Symphony and Prudential. The staff at the Reservoir is based on the same concept as other surface rating stations. The Central Subway staff is patterned after the rail lines operations.

In addition to the Surface, Rail, and Central-Reservoir Divisions, the Transportation Department also includes Central Control responsibility. The Central Control area is composed of the Dewey Operations Control Center, which dispatches and maintains all service, as well as the towermen stationed in control towers around the system who operate switches and help control the movement of trains in the yards.

Automotive Equipment Maintenance Department

The Automotive Equipment Maintenance Department is responsible for providing a sufficient number of safe, reliable, and clean buses to meet the Authority's scheduled service requirements. In addition to the bus fleet, this Department is responsible for the repair and maintenance of approximately 400 Authority owned non-revenue vehicles and pieces of heavy maintenance equipment. These include various types of trucks and vans used in the maintenance of the entire MBTA system, service trucks and wreckers, snow fighting equipment, substation generators and compressors.

In 1983, this Department will operate seven bus garages, two non-revenue vehicle garages, and one tire repair facility.

Engineering and Maintenance Department

The Engineering and Maintenance Department provides engineering and maintenance services to the MBTA system. The Department is organized into four divisions: the Maintenance of Way Division, the Power and Signal Division, the Building-Structure Division, and the Office of Energy Conservation.

The Maintenance of Way Division is responsible for the complete maintenance and inspection of 189 miles of track, all rights-of-way, maintenance of all property, snow removal, and rubbish collection.

The Power and Signal Division is responsible for the operation, control, and maintenance of the Authority's power system. These functions include generation (jet turbine), purchase, transmission, rectification of A.C. to

D.C., and distribution of power for use in operating the Authority's rapid transit cars, streetcars, and trackless trolleys. Further, the Division is responsible for the maintenance of wayside and carborne signal and communications systems.

The Building-Structure Division is comprised of two sections: Civil and Design Engineering and Building and Structural Maintenance. These two sections collectively provide the Authority with all internal design, inventory, inspection, and maintenance of the entire physical plant.

The Energy Conservation office is responsible for the development and implementation of energy conservation measures throughout the Authority.

Rail Equipment Department

The Rail Equipment Department is responsible for the cleanliness, safety, and maintenance of a fleet of approximately 600 transit passenger vehicles, including Rapid Transit Cars, Light Rail Vehicles, Trackless Trolleys, and PCC Surface Rail Cars (older streetcars), as well as a fleet of non-revenue vehicles. The maintenance of these vehicles is performed at fourteen separate locations as well as the repair facilities in the Everett Shop complex. The Everett complex consists of two areas: the Main Repair Shop and the Automotive Repair Shop. In addition to managing the day-to-day operations in these facilities, the Rail Equipment Department is managing four major capital programs: a Rapid Transit Car Procurement program, a Cambridge/Dorchester Rapid Transit Car Rebuild Program, a Light Rail Vehicle Development/Surface Rail Car Program, and the PCC Reconstruction Programs. The scope and progress of each of these programs will be discussed in more detail in Chapter 6.

Each of the fourteen carhouses has the responsibility to maintain, repair, and clean sufficient cars to meet the revenue service requirement. This is accomplished through the implementation of a scheduled preventive maintenance program for all revenue cars. It is also the responsibility of the carhouse to clean both the interior and exterior of the revenue cars, which is accomplished according to a regularly scheduled program. To meet these requirements, the carhouses operate around the clock, 365 days per year.

The Everett Shop complex has an extensive production and repair/rebuild capability to support the field locations in the maintenance of their respective revenue vehicle fleets. This facility provides the carhouses and bus garages with a central repair shop to repair major components more economically than at the individual locations.

Construction Directorate

The MBTA Construction Directorate is responsible for the Authority's capital program of expansion and modernization. The staff of this Department participates in the planning of projects, management of the engineering and design process, and monitoring and supervision of the construction activities.

This Department is also responsible for the development of grant applications to the federal government for the funding of capital projects. Federal funding participation in these capital programs range from 80 to 85 percent of their cost. The remaining 15-20 percent is funded from Bond issues sold by the Authority.

Table 1-5 reflects the organization of the Construction Directorate. The eight areas of responsibility represent either geographic construction activity or special expertise, as follows:

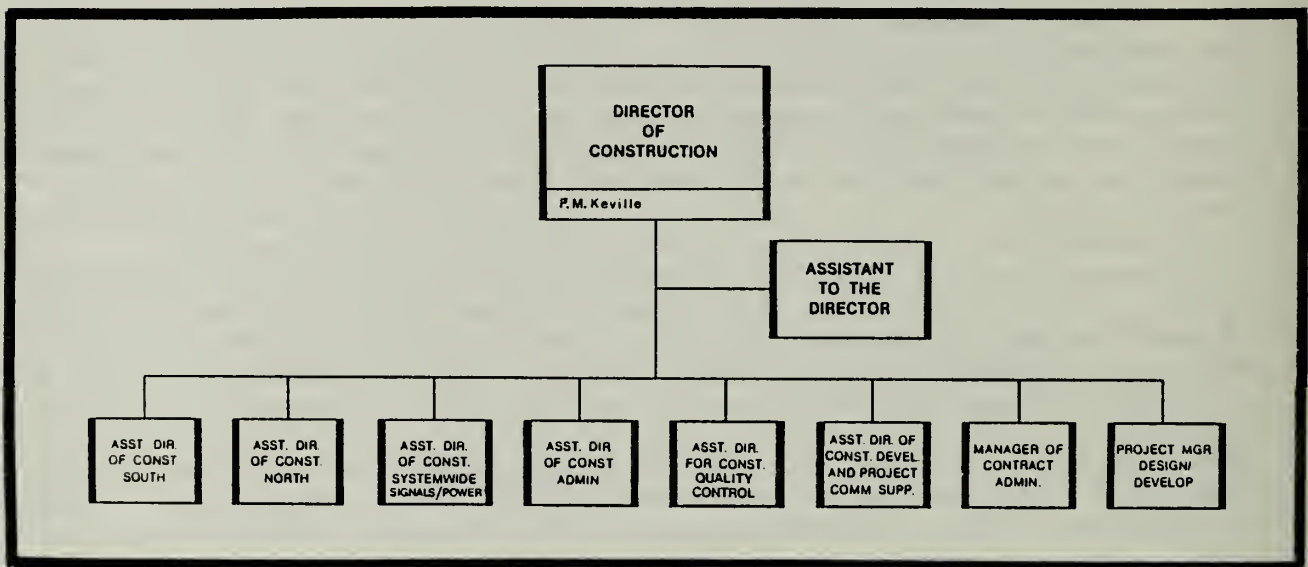


Table 1-5

- o The Assistant Director of Construction - South is responsible for construction activity in the Southwest Corridor and on the South Shore, primarily the Quincy Adams Station.
- o The Assistant Director of Construction - North is responsible for the MBTA's Red Line Northwest Extension Project to Alewife Brook on the Arlington-Cambridge Line.
- o The Assistant Director of Construction - Systemwide is responsible for the power, signals, and communications improvement programs on all construction projects.
- o The Assistant Director of Construction for Administration is responsible for all budgetary and financial matters associated with fiscal control of the capital program.

- o The Assistant Director of Construction - Quality Control is responsible for assuring that the high construction standards set by the MBTA are met by contractors on all construction projects.
- o The Assistant Director of Construction - Development is responsible for the planning and conceptual development of all capital projects and community involvement during construction.
- o The Manager of Contract Administration is responsible for the negotiation and execution of all professional services and publicly bid construction contracts associated with the capital program.
- o The Project Manager of Design/Development leads a technical support group to assure consistent design standards throughout all construction projects.

Law - General Counsel

The General Counsel of the MBTA is the senior legal advisor to the agency and one of the officers of the corporation. All actions with legal or legislative implications are reviewed and approved by the General Counsel or his representatives prior to action by either the General Manager or the Board of Directors. Table 1-6 reflects the organization of this Department.

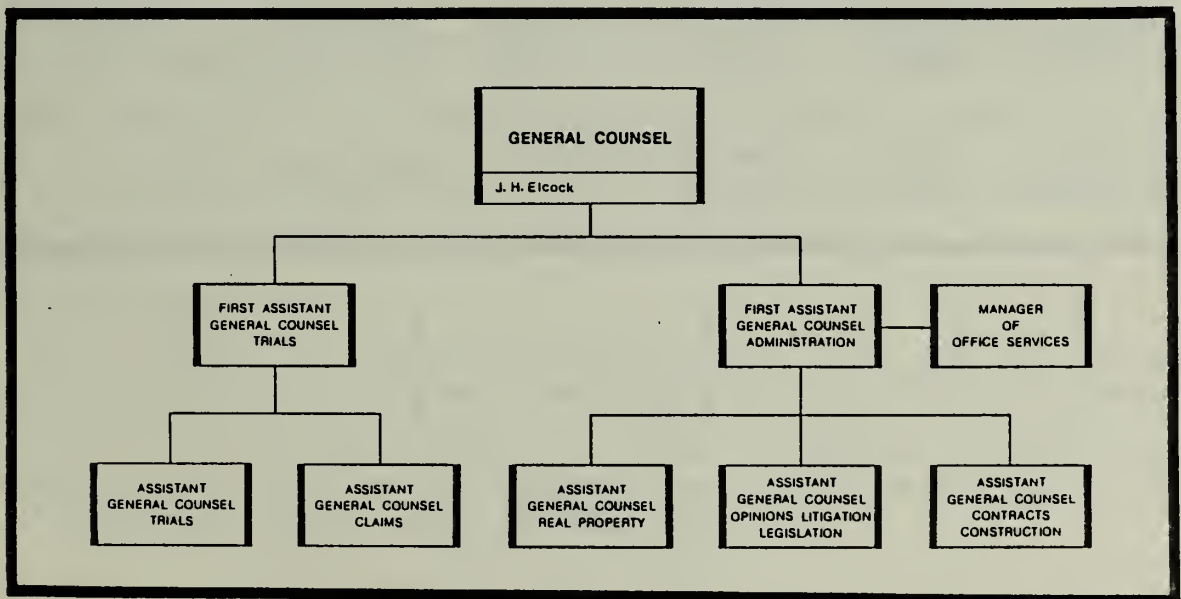


Table 1-6

The Law Department consists of six sections:

- o Claims - Tort
- o Trials - Tort
- o Contracts and Contract Claims
- o Real Property - Acquisitions
- o Real Property - Trials - Land Damage
- o Opinions, General Litigation

The Department spends a major portion of its time and resources handling injury and damage suits resulting from such occurrences as motor vehicle accidents or accidents on Authority property. Other activities include:

- o Land damage suits resulting from land-takings, right-of-way proceedings, and eminent domain cases;
- o Review of federal grants;
- o Contract negotiation, development, and review;
- o Legal action in the affirmative action and minority business area;
- o Legal matters related to extensive contractual agreements with the B&M Railroad.

Treasurer-Controller

The Treasurer-Controller who is also an office of the corporation, is responsible for general supervision of funds, investments and accounts of the Authority, in addition to federal and general accounting and auditing systems.

The Treasurer-Controller's Department consists of six sections: Financial Management, Financial Management-Railroad Operations, Revenue Collection, Accounting, Capital Program Control, and Internal Audit (Table 1-7).

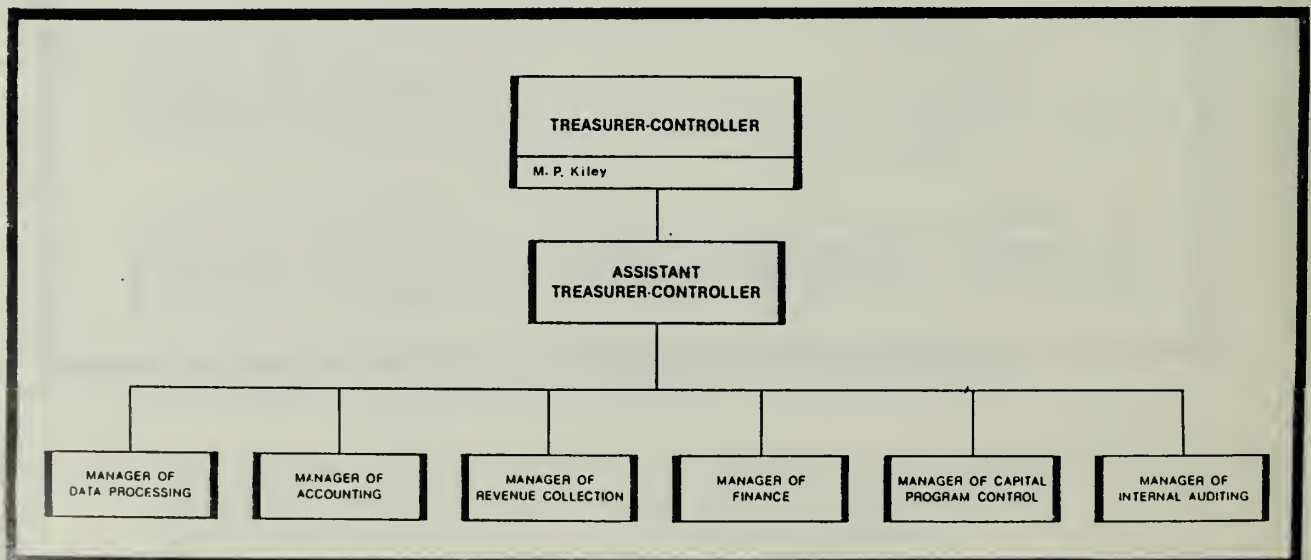


Table 1-7

The Financial Management section controls the receipt and investment of all capital and operating funds of the Authority, and plans the availability of these funds to meet cash requirements. It also manages all insurance matters, including all Authority health coverage.

The Financial Manager Railroad Operations actively participates in the MBTA management of the Boston and Maine commuter rail subsidy by reviewing and analyzing actual performance to the budget and by recommending areas of potential cost savings. This position reviews the financial impact of all agreements entered into by the Authority and the B&M, and also ensures the propriety of all commuter rail charges.

The Revenue Collection section manages the coins on the rapid transit lines and picks up, sorts, counts, and deposits all fare revenue throughout the system each day.

The Accounting section audits and prepares for payment the payroll (approximately 5,400 weekly checks and 600 bi-weekly checks), processes all vouchers for payment (approximately 120,000 invoices annually), audits and reports on transportation revenue, maintains all accounting books and reports for the Authority, calculates the assessment of the net cost of service to the cities and towns, and supplies report production services to all Authority departments.

The Capital Program Control section is responsible for fiscal control of the Authority's capital expansion program, and for preparing and submitting financial reports and cash requisitions to the Urban Mass Transportation Administration (UMTA) in the administration of grants.

The Internal Audit section is responsible for the audits of all third party contracts involved in the capital expansion program, including pre-qualifications, pre-audits, interim audits, and final audits.

Materials Directorate

The Materials Directorate is responsible for the purchase, receipt, storage, and distribution of all supplies and equipment required to maintain the operation of the transit system and its support facilities. The Directorate is organized into four divisions: Purchasing Analysis, Central Stores and Inventory Control, Rapid Transit Procurement, and Capital Procurement (Table 1-8).

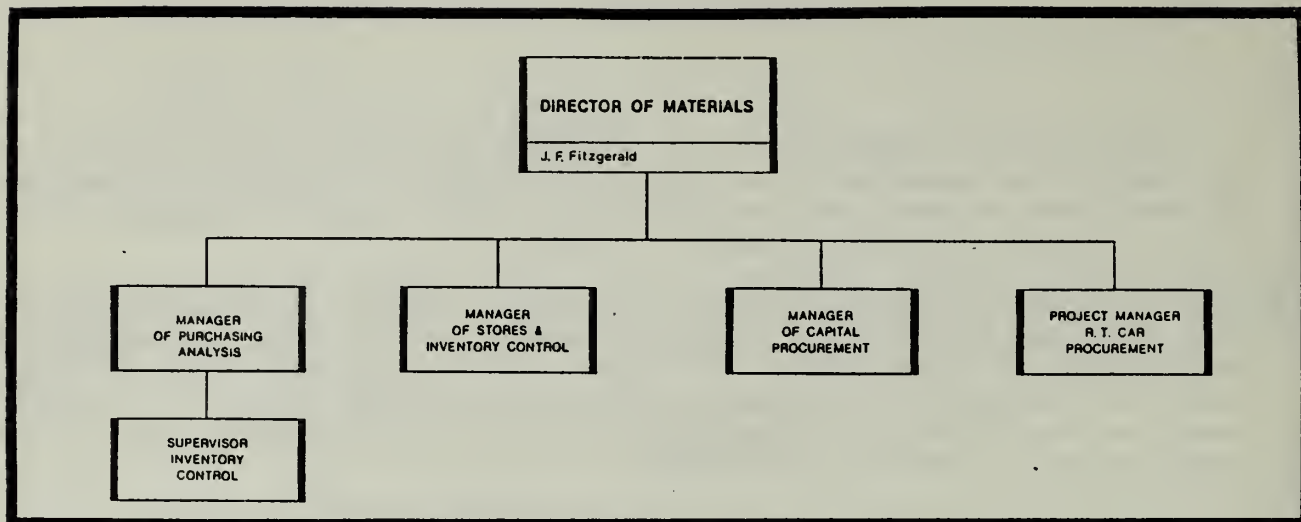


Table 1-8

The Purchasing Analysis section performs value analysis studies of procured material, reduces costs by increasing competition through the development of alternate sources of supply, and is responsible for the development of a Collective Purchasing Program among operating properties. The purpose of this program is to further reduce material costs by identifying common material to be jointly bid based on total volume required by each property. Included is the responsibility to contract for services required for maintenance of the system, the responsibility to dispose of scrap and obsolete equipment to the Authority's best advantage, and the responsibility to expedite critically required materials.

The Stores/Inventory section is responsible for the operation of the four storeroom facilities at Charlestown, Everett, Riverside, and Waltham, whose combined stock approximates 33,400 items at an estimated value of \$14.8 million. The Everett Material Distribution Center is the principal area of support for the rolling stock of buses and trains. The Charlestown Storeroom houses the material used to repair both buildings and structures, and Riverside services the LRV fleet. The Waltham Storeroom houses the LRV modification parts along with the material for a Rebuild Program.

In coordination with the Purchasing Division, the Inventory Control function is to maintain appropriate levels of inventory items, identify new items to be added to inventory, coordinate with data processing to maintain accurate inventory records, and to purge obsolete items from inventory.

The Capital Procurement and Rapid Transit Procurement sections are responsible for the procurement of all materials purchased under federal grants, including plant improvement projects, commuter rail, surface and rapid transit modernization programs and vehicles in accordance with Urban Mass Transportation (UMTA) procurement regulations.

Personnel Department

The Director of Labor Relations and Personnel Administration is responsible for the coordination of all employee and collective bargaining functions. The Department consists of four sections: Personnel Services, Employment-Workmen's Compensation and Medical Services, Labor Relations, and Employee Services (Table 1-9).

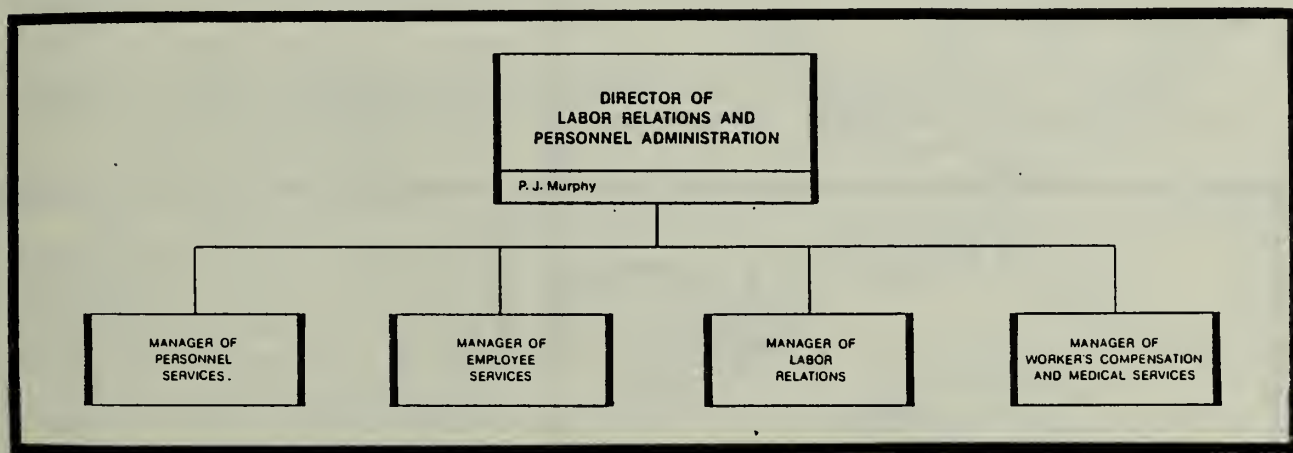


Table 1-9

The Personnel Services section is responsible for the performance evaluation program, the sick leave program, wage and salary administration, recruitment administration, personnel records, educational assistance, management development programs, employee morale problems, development of the Personnel MIS System, and personnel and labor relations research.

The Employment-Workmen's Compensation and Medical Services section has two units. The Workmen's Compensation unit investigates and verifies all reported cases of industrial accidents. The Medical Services unit of this section operates the Authority Clinic, which administers all pre-employment selection procedures and physical examinations. Physical examinations are administered to all job applicants and, annually, to all operators of revenue and non-revenue vehicles. The Clinic also conducts examinations in the case of employee industrial accidents.

The Labor Relations section interprets contract provisions, gives guidance to all levels of management in labor relations matters, processes union grievances, and argues the Authority's position on matters which go to arbitration. The MBTA has 29 collective bargaining units with 16 separate contracts. This section also negotiates wages, salaries, fringe benefits and work rules.

The Employee Services section counsels employees whose work performance is adversely affected by alcohol or drug abuse and other behavioral problems. In some instances, employees are referred to outside assistance programs designed to restore them to health and productive work.

Railroad Operations Directorate

The MBTA's Railroad Operations Directorate functions as the Authority's management team responsible for the commuter rail system, owned by the MBTA and operated under contract with the Boston and Maine Corporation. It is a 280-mile system which operates 38 locomotives and 138 passenger coaches between 92 commuter rail stations. The system provides daily transportation to 39,000 daily commuters, with total ridership in 1982 expected to exceed 10 million riders.

The major responsibility areas for Railroad Operations include Transportation, Financial, Equipment, Structures, and Track (see Table 1-10).

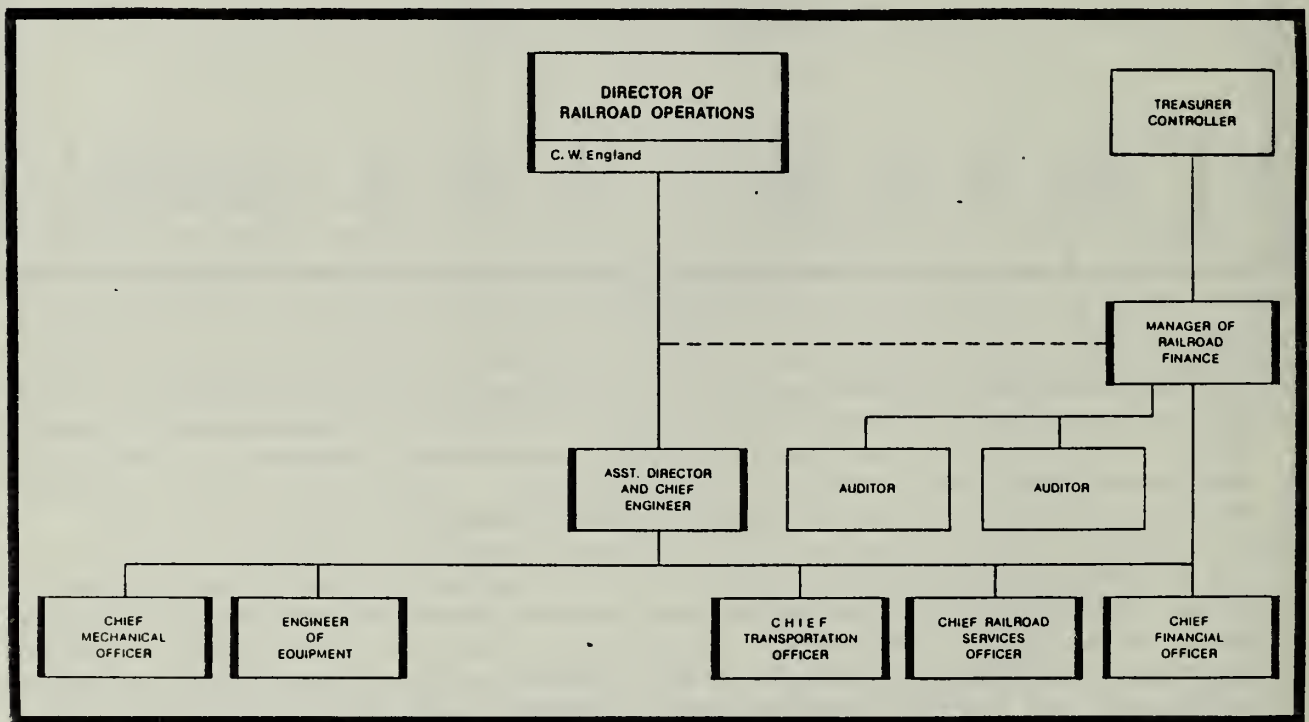


Table 1-10

The Transportation division is responsible for scheduling and day-to-day operation of the commuter rail service. This responsibility involves carefully observing the performance of the B&M railroad and operating personnel. Also, plans and recommendations are formulated concerning railroad crew and equipment assignments.

The Financial section has the responsibility for analyzing, budgeting, coordinating, controlling, reporting, and approving the expenditures of all operating and capital funds in the Railroad Operations Directorate.

The functions of the Structure section are to review and analyze structural problems concerning railroad operation. The Track section plans and monitors track maintenance and rehabilitation projects.

Real Estate Management Department

The Department consists of two divisions: the Railroad Property and Concessions Division; and the Right-of-Way and Land Management Division (see Table 1-12).

Table 1-11

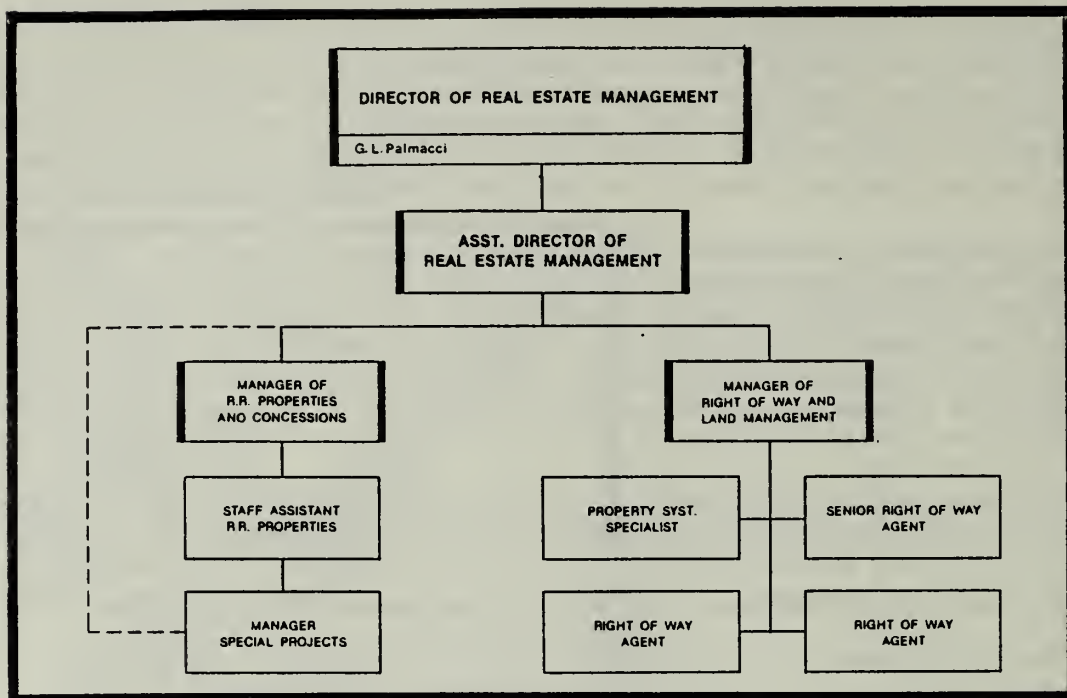


Table 1-12

The Railroad Property and Concessions Division is primarily responsible for maximizing the Authority's non-transit revenues. This includes processing all requests for use or purchase of Authority property, updating present contracts, and general lease account management. This division is also responsible for exploring future air rights and joint development opportunities.

The Right-of-Way Division's responsibility is to administer all aspects of the Authority's acquisitions and relocation programs. The division coordinates and supports these efforts with all other departments involved, so that acquisitions and relocations are performed consistent with the projected contract dates, and in accordance with the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970. The Land Management part of this division is responsible for providing all operating departments of the Authority with a complete, up-to-date inventory and reference file of all real estate properties owned and/or controlled by the Authority to coordinate tenant services and maintain budget control.

Management Information Systems Directorate

In an effort to modernize the systems and procedures utilized by MBTA personnel, and, at the same time, provide management with the necessary facts and information to strengthen control of MBTA activity, an MIS Directorate was created in July of 1982. The MIS Directorate contains three sections; namely, Administration, Data Processing, and Systems Development. Table 1-13 displays the organization of this Department.

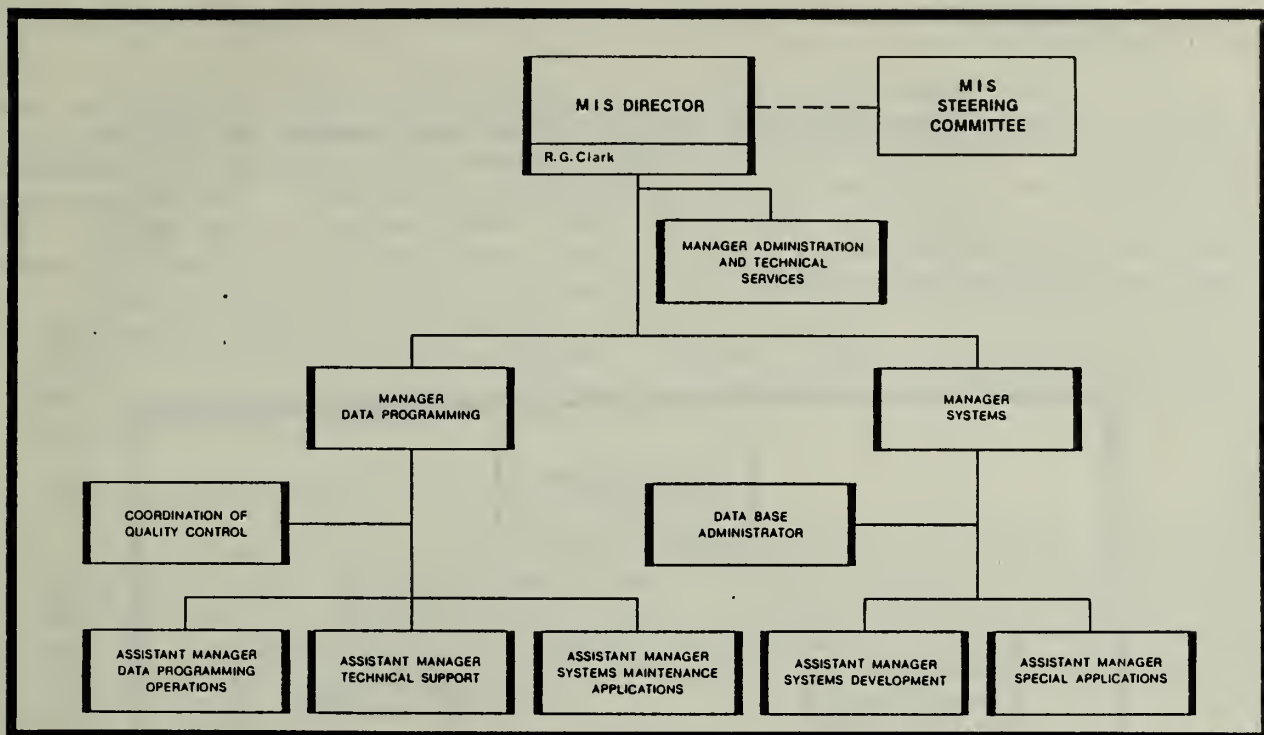


Table I-13

The Administration section is responsible for monitoring the Directorate's budgets, developing short and long range plans, and reviewing and evaluating computer hardware and software.

The Data Processing unit is subdivided into three sections: Applications Systems Maintenance, Technical Support, and Computer Operations. Applications Systems Maintenance is responsible for supplying programming maintenance to approximately 1,400 batch processing programs written in COBOL (Common Business Oriented Language). In addition, there are three on-line systems--Accounts Payable, Materials, and Cost and Schedule Control (CASC)--which utilize the data base and data communications modules.

The Technical Support function is responsible for technical systems programming. Systems programming is a specialized area which updates and monitors computer programs to support the functional operation of the Data Center and the operational applications systems.

The Computer Operations section includes the operation of the computer data entry and data control. Computer Operations operates the computer, the telecommunications (on-line) network, and punch card equipment. The data entry (keypunch) function provides the main source of input to the Authority's batch systems.

The Systems Development unit will direct and/or coordinate all development projects involving information systems processing. This function includes a complete review of the office automation function; forms design and control; records retention; and the assignment of project leaders and/or systems analysts to a function area or on a project basis.

Police Department

The Police Department's mission is to prevent crime; to establish and convey a sense of security to the public and to employees of the Authority; to investigate incidents of crime against persons and property; to prosecute offenders; and to protect the revenue of the Authority. The Department's jurisdiction extends to all cities and towns served by the MBTA. The Department is operational 24 hours a day, with patrolmen assigned to cover various shifts day and night.

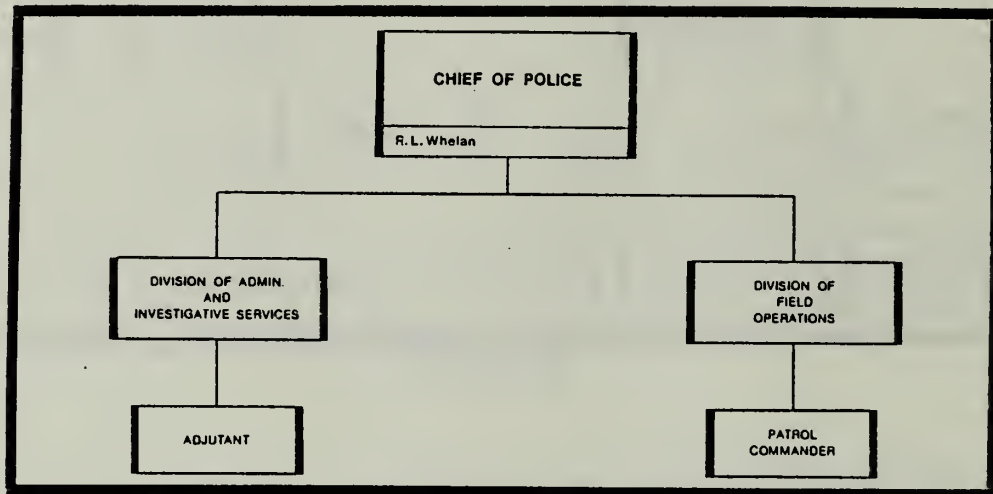


Table 1-14

The Department is organized into two main divisions (see Table 1-14): the Division of Administration and Investigative Services and the Division of Field Operations. All uniformed patrolmen are assigned to the Division of Field Operations under the direct supervision of a patrol commander. These uniformed officers have regularly scheduled patrols but may be reassigned whenever necessary to specific areas to combat a high incidence of crime.

To support the uniformed officers in their police work, several sections have been established under the Division of Administration and Investigative Services. The Detective section has six plainclothes officers to perform the follow-up work on reported crimes, to interview witnesses, and to perform general investigative work. A detective from this section is assigned to audit internal activities within the Authority.

The Prosecution unit has the responsibility of preparing all the necessary paperwork required in bringing an arrested suspect before the courts. A Community Relations unit has been established to act as a liaison with community groups in an attempt to provide better cooperation and communication with the MBTA Police.

SERVICE, RIDERSHIP LEVELS, AND PERFORMANCE

CHAPTER II

The Authority has made a concerted effort over the last year to improve the level of service and thereby increase ridership. This program to increase ridership encompasses several elements, including service improvements and fare adjustments, and has been implemented successfully as shown in the following sections.

Service Levels, Reliability, and Performance

During each quarter, as savings accrue due to implementation of the Management Rights initiatives and other cost savings programs, the Authority has been able to improve service levels. Table 2-1 briefly summarizes the type and amount of service improvements implemented for each timetable since the Fall of 1981. Also indicated in this Table is the proposed improvements for the Winter 1983 Timetable.

SUMMARY OF SERVICE IMPROVEMENTS

FALL 1981

- o Improve peak hour service on twelve routes.
- o Restore service to four routes.
- o Extend Sunday bus service hours from 7:00 p.m. to 11:00 p.m.

WINTER 1982

- o Bus service improvement instituted on eight routes.
- o Service restored to two routes.

SPRING 1982

- o Extend Sunday service hours on all modes to 1:00 a.m.
- o Improve Rapid Transit and Green Line service levels during peak and off peak hours.
- o Extend approximately one dozen bus routes.
- o Restore service to four routes.
- o Implement oew service on three routes.

SUMMER 1982

- o Resume Arborway streetcar service.

FALL 1982

- o Improve peak hour service on better than ten routes.
- o Improve peak hour service on better than one dozen routes.
- o Extend or reroute five bus routes.

WINTER 1983 (proposed)

- o Improve evening service on nine routes.
- o Improve Sunday service on twenty-one routes.
- o Restore Sunday service on eight routes.
- o Improve Rapid Transit peak hour services.
- o Six routes will be extended, rerouted, or have service hours expanded to service new markets.
- o Peak hour service improvements on better than one dozen routes, along with several off peak hour adjustments.

Table 2-1

The following Table 2-2 depict service levels and hours of operation for all the Rapid Transit, Streetcar, Bus, and Commuter Rail routes operated by the Authority.

RED LINE

	<u>Rush Hours</u>	<u>Frequency (in minutes)</u>			
		<u>Day</u>	<u>Night</u>	<u>Sat.</u>	<u>Sun.</u>
Harvard-Ashmont	6	10 1/2	12	10	12
Harvard-Braintree	6	10 1/2	12	10	12
Mattapan-Ashmont	4	8	12	8	12

	<u>Braintree</u>	<u>Cambridge</u>	<u>Ashmont</u>
Distance to Downtown	10.4 miles	3.7 miles	5.6 miles
Average peak hour time, Terminal to Downtown	27 minutes	13 minutes	17 minutes
Average peak A.M. passengers (One hour during PEAK A.M.)	9,000	8,000	6,000
Number of Stations:	28		

ORANGE LINE

	<u>Rush Hours</u>	<u>Frequency (in minutes)</u>			
		<u>Day</u>	<u>Night</u>	<u>Sat.</u>	<u>Sun.</u>
Oak Grove to Forest Hills	4	7 1/2	12	7 1/2	11

	<u>Oak Grove</u>	<u>Forest Hills</u>
Distance to Downtown	6.0 miles	4.8 miles
Average peak hour time, Terminal to Downtown	16 minutes	18 minutes
Average peak A.M. passengers (One hour during PEAK A.M.)	7,000	6,000
Number of Stations:	16	

Table 2-2

BLUE LINE

	<u>Rush Hours</u>	<u>Frequency (in minutes)</u>			
		<u>Day</u>	<u>Night</u>	<u>Sat.</u>	<u>Sun.</u>
Wonderland-Bowdoin	4	7 1/2	11	7 1/2	11

Distance to Downtown:	6.2 miles
Average peak hour time, Terminal to Downtown:	20 minutes
Average peak A.M. passengers (One hour during PEAK A.M.):	6,000
Number of Stations:	12

GREEN LINE

	<u>Rush Hours</u>	<u>Frequency (in minutes)</u>			
		<u>Day</u>	<u>Night</u>	<u>Sat.</u>	<u>Sun.</u>
Lechmere to Riverside	3	5	10	5	10
Riverside to Lechmere	3	5	10	5	10
Boston College to North Station	3	5	10	5	10
Beacon to Government Center	4	5	10	5	10
Arborway to Park Street	3 to 4	10	10	9	7

	<u>Distance to Downtown</u>	<u>Time to Downtown</u>	<u>Average One Hour Peak AM Passengers</u>
Lechmere to Riverside	2.0 miles	10 minutes	5,000
Riverside to Lechmere	12.0 miles	45 minutes)	
Boston College to North Station	6.0 miles	40 minutes)	
Beacon to Government Center	5.0 miles	36 minutes)	7,000
Arborway to Park Street	5.7 miles	40 minutes)	

Number of Stations: 27

Table 2-2 (cont.)

BUS TRANSPORTATION

<u>Bus Garages</u>	<u>Average Peak A.M. Passengers</u>	<u>A.M. Peak Vehicles</u>	<u># Routes</u>
Albany St.	4,300	88	14
Bartlett St.	6,200	94	24
Fellsway	2,600	59	11
Charlestown	7,900	184	35
Quincy	3,200	69	18
Lynn	3,200	81	25
Cabot	<u>5,500</u>	<u>118</u>	<u>25</u>
	32,900	693	152

COMMUTER RAIL (Frequency in Minutes)

	<u>Trip Time</u>	<u>Rush Hour</u>	<u>Mid-Day</u>	<u>Night</u>	<u>Sat.</u>	<u>Sun.</u>
Boston-Beverly	33	20	60	75	75	150
Beverly Depot-Ipswich	20	25	120	93	150	0
Beverly Depot-Manchester	16	26	120	150	150	120
Manchester-Rockport	25	26	120	150	150	120
Boston-Reading	25	26	60	70	60	60
Boston-Haverhill	63	25	2-T	3-T	4-T	4-T
Boston-Lawrence	50	25	2-T	3-T	4-T	4-T
Boston-Methuen						
Boston-Winchester Ctr.	15	15	60	150	150	60
Winchester Ctr.-Lowell	25	31	120	150	150	120
Boston-South Acton	50	20	60	80	120	120
Boston-Fitchburg	87	45	120	2-T	120	4-T
Boston-Gardner	101	1-T	1-T	0	2-T	1-T
Boston-Framingham	45	30	2-T	0	0	0
Boston-Norwood Central	29	22	2-T	2-T	3-T	0
Norwood Central-Walpole	10	22	2-T	2-T	3-T	0
Walpole-Franklin	20	22	2-T	3-T	3-T	0
Boston-Route 128	18	28	120	180	8-T	0
Route 128-Attleboro	28	35	120	1-T	6-T	0
Boston-Stoughton	38	60	0	0	2-T	0

Note: T denotes number of trips.

Table 2-2 (cont.)

Service Reliability

Even though the Authority has increased its service level, it must maintain and improve its service reliability since that is the key factor in providing service.

The Daily Service Report is prepared in the office of the Director of Operations each weekday, and the information it contains includes A.M. and P.M. vehicles available versus scheduled and dropped trips by line and cause.

The following data in Tables 2-3 and 2-4 was obtained from the Daily Service Report, and summarized by month and year.

Table 2-3 depicts the number of net dropped trips and scheduled trips by mode, and the systemwide percentage dropped for the entire years 1979, 1980, 1981, and for October Y.T.D. 1981 versus October Y.T.D. 1982.

<u>Total 1979</u>	<u>Net Dropped Trips</u>	<u>Scheduled Trips</u>	<u>% Dropped (Systemwide)</u>
Rapid Transit	11,002	454,754	
Streetcar	21,933.5	313,218	
Bus	76,933.5	1,870,196	
Total:	109,869	2,638,168	4.16% (Total 1979)
<u>Total 1980</u>			
Rapid Transit	12,659	474,780	
Streetcar	11,646.5	239,015	
Bus	38,611	1,946,459.5	
Total:	62,916.5	2,660,254.5	2.37% (Total 1980)
<u>Total 1981</u>			
Rapid Transit	17,627	445,053	
Streetcar	8,620	201,278	
Bus	47,513	1,780,919	
Total:	73,760	2,427,250	3.04% (Total 1981)
<u>Total Y.T.D. October 1981</u>			
Rapid Transit	15,712	369,093	
Streetcar	6,809	168,519	
Bus	40,375	1,482,480	
Total:	62,896	2,020,092	3.11% (Total Y.T.D. October 1981)
<u>Total Y.T.D. October 1982</u>			
Rapid Transit	15,672	411,444	
Streetcar	6,932.5	211,650	
Bus	27,875	1,332,680	
Total:	50,479.5	1,955,774	2.58% (Total Y.T.D. October 1982)

Table 2 - 3

Comparing the first ten months of 1982 with 1981, the Authority has experienced a systemwide decrease of 17 percent in the total number of net trips dropped.

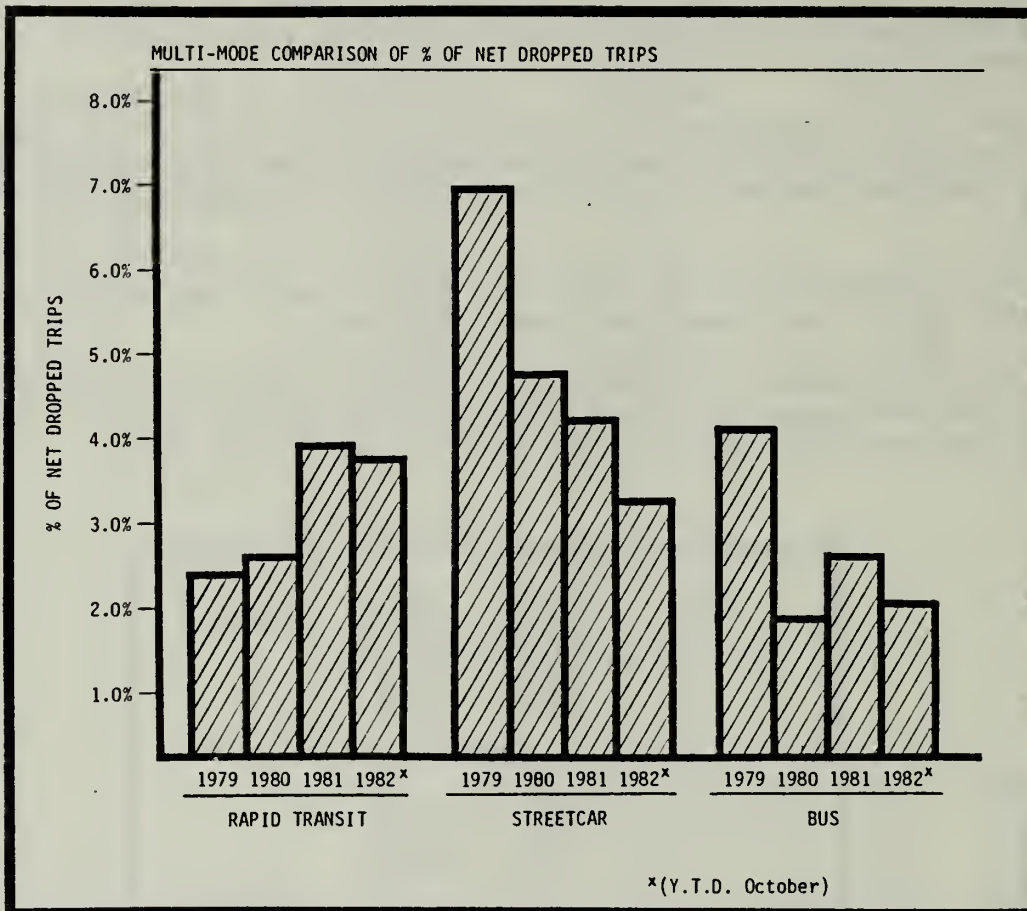


Table 2-4

In Table 2-4, each mode of transit service's net dropped trips is bar-charted for the years 1979 through October Y.T.D. 1982. Both the Streetcar and Bus modes have shown an approximate 50 percent decrease in net dropped trips from 1979 to 1982. However, the Rapid Transit mode has shown a disturbing increase in net dropped trips from 1979 to 1982 due mainly to problems with the Red Line. The Director of Operations office has embarked upon an analysis of the reasons responsible for this increase. Corrective measures are being implemented and a slight improvement has already been experienced.

Transit System Safety

During recent years, the Safety and Training Division has realized numerous accomplishments in regards to system safety. During 1981, the Authority realized a 21.7 percent reduction in Surface Lines revenue vehicle accidents, due mostly to the development and enforcement of a discipline code for preventable accident involvement and monthly revenue vehicle accident reports.

The Safety and Training Division has initiated a Starters and Inspectors Training Program, where 250 employees completed a program which included surveillance techniques, arrest procedures, defensive force, and life support (CPR).

The Safety and Training Division continues to present the Authority's Transit Safety Awareness Program to students in Boston, Revere, Braintree, and Quincy. To date, over 18,000 students in grades 1 through 8 have been addressed by (T) personnel of Safety and Training, Police, Communications, and EEO/AA Departments.

Ridership Trends

Revenue from transportation each year has covered a decreasing percentage of the Authority's operating costs, because fares have not been adjusted to realistically reflect increased inflation. Due to Proposition 2 1/2 and other tax limiting policies at the state and federal levels, general funds for subsidies have become tighter. As a result, fares were increased in both 1980 and 1981 (and subsequently, partially reduced in 1982) to increase revenue from this source, so that the user would pay a higher percentage of the real cost of operating the service.

With continued implementation of the rights granted under Chapter 581, major savings have been achieved which have allowed service levels to be restored, and, in some cases, improved for each of the last five timetables.

Ridership levels had fallen by approximately 10 percent by late 1981 and early 1982. Due to a concentrated effort by MBTA management, service improvements were instituted and a fare rollback approved (May 1982), which brought about a stabilization of ridership. In recent months, ridership has started to grow by approximately 4 percent and further increases are predicted.

1982 ridership for each month since August has about equaled or surpassed the ridership for the same month in 1981.

The expected revenue for 1982 has also grown in recent months, as indicated below:

1982 Revenue Projections

<u>Date of Projection</u>	<u>Amount</u>
January 1, 1982	\$97.6 million
May 1, 1982*	\$91.2 million
November 3, 1982	\$93.5 million

*The revenue loss due to the 5/1/82 fare reduction was estimated at \$6.6 million. Also, actual revenue for the first four periods was running a positive variance of \$0.2 million.

The above shows that the current revenue projection for 1982 is running better than \$2.0 million greater than earlier projections. This increase reflects ridership increases over and above that predicted to occur as a result of the May, 1982, fare reduction. This ridership growth is attributed primarily to improvements in service levels and reliability during the last half of 1982.

Annual Ridership and Fare Mix Sampling Program

The economic vitality of the Boston Metropolitan Area depends largely on a dependable and cost effective MBTA. The population of the MBTA District can be encouraged to use transit services, if the MBTA remains safe, convenient, reliable, and priced competitively to other alternatives. As, nationwide, the user has been asked to cover a larger percentage of the costs of operation, many officials have suggested that the Authority conduct an annual review of revenue, ridership, and fares in conjunction with the budget process, so that fares can be adjusted, with inflation, in small increments. In this way, the impacts on ridership would be minimized, and ridership should continue to grow.

Consequently, in 1981, a sampling program was designed by the Authority to survey passengers entering surface vehicles and rapid transit stations, in order to develop a distribution by fare category.

The major purpose of this program was to develop an average passenger fare so that ridership can be estimated. Historically, system ridership had been derived from the revenue receipts based on an average fare. A new program was needed since several major changes to the fare structure had been implemented in recent years. Because of these changes, the historic data no longer represented the fare mix characteristics of the MBTA ridership.

The program was designed to collect the necessary base data to quickly and inexpensively obtain a reliable estimate of the number of riders, the fare mix, and the average fare for unlinked and linked trips. The average fare figure is based upon several factors:

- o Mode used - rapid transit, local bus, zoned bus, express bus
- o Type of rider - adult, elderly or handicapped, student, or child
- o Method of fare payment - cash, pass, reduced elderly or handicapped

The Sampling Program was first implemented in November, 1981. A summary of the results is found in Tables 2-5 and 2-6. In order to maintain the confidence for ridership estimation in future years, this program has become an annual project. The second annual survey is being conducted during November, 1982, with the data and corresponding results to be compiled in early 1983.

Distribution of Unlinked Trips by Fare Payment
(November, 1981)

	<u>Rapid Transit</u>	<u>Surface*</u>
Adult - cash	48.5%	39.6%
- prepaid pass	29.2%	30.7%
E & H - half fare	3.8%	5.3%
- free	11.1%	6.3%
Students and Children	5.8%	12.2%
Other free - authorized	1.2%	5.4%
- unauthorized	0.4%	0.5%
Average fare	60 cents**	39.6 cents

*Includes Surface Green Line

**Reduced to an estimated 48.9 cents effective with the Rapid Transit fare reduction on May 1, 1982.

Table 2-5

Distribution of Average Weekday Riders by Fare Mix
(In 000's)

	<u>November 1981</u>	
Adult - cash	207.8	(41.0%)
- prepaid pass	173.2	(34.2%)
E & H - half fare	22.0	(4.3%)
- free	40.3	(8.0%)
Students and Children	44.4	(0.0%)
Other free - authorized	16.9	(3.3%)
- unauthorized	<u>2.1</u>	<u>(0.4%)</u>
Total	506.7	(100%)
Average fare	69.7 cents/linked trip*	

*Reduced to an estimated 62.2 cents effective with the Rapid Transit fare reduction on May 1, 1982.

Reduced to an estimated 62.0 cents effective with the implementation of a systemwide student pass on September 1, 1982.

Table 2-6

Private Carriers - Local Service Subsidy Program

MBTA staff monitors the local service subsidy account. In 1980, there were three such contracts: Hudson Bus Lines for services in Hingham and Hull, Michaud Bus Lines for services in Salem and Peabody, and Rapid Transit, Inc., for services in Winthrop and East Boston. At that time, all services were authorized on a month-to-month basis.

In general, the Authority has attempted to minimize the subsidized costs, while not impacting the quality of services provided under these contracts.

The following chart summarizes the funding requirements of the local service subsidies:

	<u>Hudson</u>	<u>Michaud</u>	<u>Rapid Transit</u>	<u>Total</u>
1979	70,929	105,710	501,402	678,041
1980	65,536	126,000	549,926	615,588
1981	---	85,000	486,874	571,874
1982	---	95,000	474,000	569,000

As one can see, the total dollars expended in 1982 is 16 percent less than the 1979 expenditure. This was achieved despite increased operating costs. There have been minimal reductions in service levels, and the passengers contribute approximately 50 percent of the total cost of operations.

Hudson Bus Lines began subsidized services in January of 1979. The system provided local transportation to the residents of Hingham and Hull, while providing feeder service to MBTA services in Quincy. The operating costs increased 13 percent during the course of the subsidy. In January, 1981, the subsidy was terminated, and with the involvement of the community and the Authority, a higher level of service is provided today with no financial assistance from the Authority.

Michaud Bus Lines has provided subsidized services to Salem and Peabody since 1978. This service could be classified as intracommunity service with a high percentage of shopping trips by senior citizens. The operating costs of this contract increased 7 percent from 1980 to 1981 with no increase in 1982. Currently, there is hourly service providing local trips to the North Shore Shopping Center. In calendar 1981, this system provided approximately 150,000 rides. The net cost per passenger has remained constant from 1981 to 1982 at \$0.56.

Rapid Transit, Inc., has provided subsidized services to Winthrop and East Boston since 1968, connecting with the Blue Line at Orient Heights. This arrangement is somewhat unique in that the Authority underwrites the net loss of service not to exceed a set amount. The current schedule requires eight peak period buses and provides approximately 1.2 million trips per year at a net cost per passenger of \$0.36. The 1982 contract requires 5 percent less than essentially the same service provided in 1979 and 13 percent less than 1980.

The Authority has made an effort to ensure that optimum service levels are provided in a cost efficient manner under the local service subsidies. The Authority requested level funding for 1983, and the Advisory Board has approved it.

THE RIDE Program

THE RIDE is currently operating 17 vehicles each weekday and two to three vehicles on Saturday and Sunday.

Ridership levels have continued to increase. In an average month, there are over 7,000 trips. These trips have historically been for work (46%), medical (32%), and the balance for social/recreational, school, shopping, etc. (22%).

Since the service began (April, 1977), there has been an increase in work trips compared to other trips, and that fact indicates a high degree of confidence by passengers in the reliability of the service. This is reflected by the fact that in October, 1982, not one trip was missed, and only 320 trip requests were unfilled, while 7,461 were provided.

As of today, the Authority owns 34 vehicles--28 vans, 6 small buses--which are all equipped with wheelchair lifts, two-way radios, and various specially designed features, enabling both ambulatory persons and those using wheelchairs to ride safely and comfortably.

Expansion of the service has occurred frequently during the last five years; however, a major expansion is planned for 1983 which will result in nearly doubling the service area. At present, all of Cambridge and Brookline and approximately 45 percent of Boston is provided service. Upon delivery of new vehicles (15 are expected in early 1983), and approval of a budget of over \$1.5 million for 1983, THE RIDE will be available to persons who are unable to use regular MBTA services who reside in Dorchester, Mattapan, Roslindale, Jamaica Plain, and the balance of Roxbury (over 80 percent of Roxbury is presently served). Additionally, all or significant sections of the following communities will begin to receive services during the first four to six months of 1983: Arlington, Belmont, Chelsea, Everett, Newton, Somerville, Watertown, West Roxbury, and Winthrop.

Some relevant operations and cost data appear below:

	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982*</u>	<u>1983**</u>
Service Hours	30,386	55,700	55,013	61,000	80,000
Passenger Trips	38,787	73,542	82,794	80,000	90,000
Passengers/Hour	1.28	1.32	1.50	1.55	1.6
Total Cost	\$421,668	\$869,302	\$1,007,802	\$1,040,000	\$1,505,000
Net Cost	\$387,583	\$805,571	\$ 940,279	\$1,000,000	\$1,475,000

*Based on operations and cost data through October, 1982

**Projected

Wheelchair Lift-Equipped Buses

Between June 28 and September 13, 1982, the Authority inaugurated service on 10 bus routes, which accommodate persons who use wheelchairs and others who have severe disabilities.

The 84 buses, made by Flyer Industries of Canada (half of the total order of 168 vehicles), were purchased with lifts for the purpose of experimenting with a variety of service plans, and to determine whether use by the handicapped community would warrant further purchases of lift-equipped buses. The experimental phase of the service will continue through August of 1983.

The 10 routes selected for the program are:

- 400/455 Salem/Central Square, Lynn, to Boston
- 111 Woodlawn (Chelsea) to Haymarket
- 326 West Medford to Haymarket
- 76 Bedford, Lexington to Harvard/Brattle
- 7 City Point (South Boston) to Downtown
- 27 Mattapan to Ashmont
- 32 Wolcott Square/Cleary Square to Arborway
- 300 Riverside (Newton) to Downtown
- 236 Quincy Center to Braintree Station to South Shore Plaza

Plans for Accessible Rapid Transit Stations

Five subway stations are currently accessible to persons with disabilities. Park Street, Oak Grove, and Braintree Stations have been equipped with elevators, while Ashmont and Harvard/Brattle have ramps which provide access.

In addition, there are three projects which will add a total of 13 totally accessible stations to the MBTA's system. These stations are listed below:

RED LINE: Alewife Extension - Four new stations presently under construction--Harvard Square (already accessible), Porter Square, Davis Square, and Alewife.

Quincy Adams Station is 99 percent complete, and will open in the Spring of 1983.

ORANGE LINE: The Southwest Corridor Project, when completed, will result in nine new accessible stations--Medical Center, Back Bay, Massachusetts Avenue, Ruggles Street, Roxbury Crossing, Jackson Square, Boylston Street, Green Street, and Forest Hills.

The number of accessible stations will increase over the next three years as follows:

Present accessible stations	--	5
Additional accessible stations in 1983	--	1
" " " " 1984	--	3
" " " " 1986	--	9
Total		<u>18</u>

It should be noted that no accessibility is planned for Green Line stations (Kenmore, Copley, Boylston, Government Center, etc.), due to the fact that the Green Line vehicles, both P.C.C. cars and L.R.V. cars, are not accessible to the handicapped. Further, while there is a federal study underway to establish the feasibility of making Light Rail cars accessible, it is widely held that no viable options exist or will appear in the next decade, at least. Alternative services, primarily THE RIDE and some wheelchair lift-equipped bus routes, will be available in all Green Line service areas.

The 18 new accessible stations, combined with the four to six to be made accessible under the Station Modernization Program, will result in 22 to 26 accessible stations by late 1986. This figure represents approximately 50 percent of all MBTA stations.

Railroad Operations - Service Performance, Revenue, and Ridership

In 1979, Commuter Railroad service was experiencing significant difficulties. Its fleet was made up of old RDC cars and steam coaches. New coaches (60) were arriving but could not accommodate all of the riders. Fifteen locomotives and 56 coaches were being leased at great expense; on-time performance and service reliability were low. Track conditions were very poor, and the railroad was operating under speed restrictions. A great deal of non-productive mid-day service was being run and costs were spiralling upward. We were in the third year of a five-year Operating Agreement that provided no incentive or penalty for contractor performance and was, basically, cost plus.

Therefore, MBTA Management reorganized all Commuter Railroad activity into a Railroad Operations Directorate, and a new Director reporting to the General Manager was appointed. Goals were established to improve on-time performance, vehicle availability, passenger comfort and, at the same time, reduce costs. A team was appointed to develop, negotiate, and implement a new Operating Agreement with performance standards, incentives, and penalties. A Rail Diesel Car rebuild program was initiated and implemented and new locomotives were purchased. Track rebuild programs were accelerated. Rush-hour service was improved, and non-productive mid-day service eliminated. Extensions to Gardner and Haverhill were opened. In 1983, Railroad Operations will, for the third year in a row, operate at level funding or less. A long range plan for operation of the railroad by the MBTA is just getting underway.

Great strides have been made in increasing ridership and revenue as on-time performance has continued to improve.

RAILROAD OPERATIONS PROGRESS REPORT

Passenger and Revenue (in 1,000's)

<u>Year</u>	<u>Revenue</u>	<u>Percentage Increase (Decrease)</u>	<u>Passengers</u>	<u>Percentage Increase (Decrease)</u>	<u>Operating Ratio</u>
1979	\$ 9,527	11.4	8,487	8.4	22%
1980	\$11,554	21.3	9,339	10.0	21%
1981	\$12,940	12.0	9,155	(2.0)	22%
1st Qtr. 1982	\$ 3,952	27.0	3,358	8.5	

Train Operations

<u>Year</u>	<u>Train Sets</u>	<u>Loco's</u>	<u>Loco's Leased</u>	<u>Cars</u>	<u>Cars Leased</u>	<u>Cars/Trains</u>
1979	45	36	15	149	56	3.3
1980	41	39	12	180	56	4.4
1981	32	33	5	132	14	4.1
1st Qtr. 1982	31	32	1	128	0	4.1

Passenger and Revenue Per Train/Car

<u>Year</u>	<u>Pass/Train</u>	<u>Pass/Car</u>	<u>Rev./Train</u>	<u>Rev./Car</u>
1979	189,000	57,000	\$212,000	\$64,000
1980	228,000	52,000	\$282,000	\$64,000
1981	286,000	69,000	\$404,000	\$98,000

Table 2-7

The data presented in Table 2-7 shows the increase in passengers and revenue and the reduction of leased locomotives and coaches, thereby reducing costs. Also, measures of productivity, such as revenue per car or per train, show remarkable improvements.

<u>Railroad Operations On-Time Performance</u>				
<u>Month</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
January	76.1%	86.9%	87.4%	89.0%
February	70.1%	87.3%	86.3%	94.0%
March	71.2%	90.2%	92.5%	95%
April	74.4%	88.5%	91.6%	87%
May	77.8%	83.5%	89.1%	91.3%
June	81.6%	85.1%	91.1%	91.2%
July	80.1%	89.0%	83.9%	92%
August	75.3%	86.0%	82.7%	94.6%
September	70.6%	85.3%	88.7%	94%
October	61.3%	84.0%	89.4%	
November	64.5%	83.4%	88.0%	
December	<u>76.2%</u>	<u>88.0%</u>	<u>88.0%</u>	
% for Year:	73.3%	86.4%	88.2%	Y.T.D.: 92%

Table 2-8

As depicted in Table 2-8, on-time performance has shown a dramatic improvement, going from a low of 73.3 percent in 1979 to a high of 94.0 percent for September Y.T.D. 1982.

Simply stated, Railroad Operations is carrying more people on fewer trains, producing more than a 50 percent increase in revenue per car and almost twice as much revenue per train.

The investment in Commuter Rail has just begun to show its potential. In 1982, 10 million passengers will use commuter rail, and that number has the potential to be doubled. The requirements to meet that potential demand are additional coaches, increased parking facilities, and some station platform lengthening.

Monitoring of Service and Performance

The Office of the Director of Operations carefully monitors daily transit service performance via various statistical reports, chief among these being:

- o Daily Service Report (also summarized graphically each month)
- o Daily Vehicle Report (also summarized each week)
- o Daily Disabled Buses Report

Additionally, many investigative and analytical reports are generated which strengthen top management's ability to decide Authority policy and organizational procedures. For example, a physical plant inspection analysis of every carhouse and bus garage was performed which highlighted major problem areas which needed improvements and immediate corrective action was taken.

MBTA OPERATING BUDGET AND REVENUE

CHAPTER III

The MBTA submitted a budget to the Advisory Board covering the period from January 1, 1983, through June 30, 1984. This eighteen-month budget was necessitated by Section 17, Chapter 581 of the Massachusetts General Laws. The budget was submitted into three parts:

- o The first budget of \$191,814,940 covers the period January 1, 1983, to June 30, 1983, and was submitted in accordance with Chapter 161A of the General Laws as amended.
- o The second budget in the amount of \$393,271,898 covers the period July 1, 1983, to June 30, 1984, and was submitted in accordance with Chapter 581, Section 17 of the Acts of 1980.
- o The third budget in the amount of \$383,576,290 covers the period January 1, 1983, to December 31, 1983. This is a contingency budget and was submitted in the event that Section 17 of Chapter 581 is delayed in implementation.

Over the past year, the MBTA has labored diligently with the assistance of the Advisory Board to develop firm budget controls through better management and increased productivity. Through implementation of "management rights," we have been able to achieve savings that only a short time ago would have been impossible.

It is important to note, that in the spending plan for the next eighteen months, many (items and certainly all those within the control of the Authority) have decreased or remained level. Other specific items of note in these budgets are:

- o Service - The level of service to be provided in 1983 is approximately 10 percent greater than that provided at the beginning of 1982. As part of this service, the Authority plans to double the scope of THE RIDE program, the para-transit service for handicapped persons. New communities to receive this valuable service include Arlington, Belmont, Chelsea, Everett, Newton, Somerville, Watertown, Winthrop, Dorchester, Jamaica Plain, Roslindale, and West Roxbury.
- o Wages - In the proposed budget, the wage costs for providing the same amount of service as 1980 decreased by some \$9 million.
- o Part-Time Personnel - MBTA will double its part-time work force to a total of 400 part-timers working by fall of 1983, achieving an annualized savings of approximately \$6 million.
- o Materials Expense - The Authority is responsible for maintenance of a vast number of vehicles and rail lines. We have level funded all but a few items of material. Inflation increases will be absorbed through improved inventory control, efficient parts utilization, and less use of original equipment manufacturer's parts.

- o Service Contracts - By the end of 1982, the Authority will have contracts with private sector firms for all buses, buildings, and rapid transit and Green Line stations. Contracts already let will realize nearly \$1.2 million in savings. With the addition of final contracts, savings will total approximately \$1.6 million.

Following the review of the Advisory Board Finance Committee, the full Advisory Board voted a calendar year 1983 budget of \$367,375,356. This reflects a reduction of \$18,978,421 from the original submission of the Authority.

The largest factor in the Advisory Board reduction is in the area of interest rates for the Authority's bonded indebtedness. The Advisory Board has assumed a lower 1983 interest rate. Should the Advisory Board assumptions prove correct, the Authority concurs with the Advisory Board funding level of interest payments. The other reductions are basically derived from Advisory Board assumptions on the implementation schedule of "management rights" and assumptions that the federal government will assume some costs for the opening of new Red Line service.

It is important to note that the Advisory Board voted no funding for the last six months of FY 84. This Advisory Board action will necessitate a supplemental budget or legislative action regarding the transfer of the MBTA budget cycle from a calendar year to the state fiscal year, as outlined in Massachusetts General Laws Chapter 581, Section 17.

Of the total net increase requested over the next eighteen months, \$24.8 million, or approximately 70 percent, is directly attributable to capital expansion and renovation projects. More than \$1.5 billion in ongoing projects, including the Red Line extensions to the South Shore and Alewife, the Southwest Corridor Orange Line Relocation Project, South Station Transportation Center, and others, must be funded on a year-to-year basis. The Authority's contribution represents the interest on state transportation bonds needed to match the 80 to 85 percent federal contribution. The MBTA's capital construction program is not only bringing about new and improved transportation services, it is the centerpiece of the state's construction industry, pumping millions of dollars into the economy of the region. On one major MBTA project alone, the Southwest Corridor project, upwards of 30,000 people will be employed during the construction process. Upon completion, 10,000 to 12,000 new permanent jobs will be located along the Corridor.

The benefits of the capital program include economic development, jobs, and higher real estate property values. A 1973 report by the Metropolitan Area Planning Council on the extension of the Red Line to Quincy said, in part, "The new transit facilities are an economic benefit to Quincy. They have introduced new jobs which mean more taxes and more construction for the city. The transit service has aided in the establishment of a new economic base, which, without transit service, may have been long delayed."

The remaining increases in the budget may be attributed to the following factors:

- o Power and Utilities - The price of gas, oil, steam, and electricity is projected to increase by approximately \$6 million over the next eighteen months. These estimates were made by both the power companies and the MBTA. In addition, they were confirmed as conservative estimates by a private energy consulting firm which was retained by the Authority to review all power and utility cost assumptions.
- o Blue Cross/Blue Shield - The Authority provides paid medical coverage to all its employees under age 65 (retired individuals under age 65 who retired after January 1, 1954, are also covered). On January 1, 1982, the Authority switched from a premium basis to a cost basis for all current employees (except for dental coverage, which remains on premium and is shared 50 percent by employees). The savings during 1982 resulting from the changeover was approximately \$3.5 million. However, the Authority will now have to meet the increases which are occurring in the medical field. Blue Cross/Blue Shield is estimating a 22 percent growth in medical costs for calendar year 1983 and approximately 11 percent for the first six months of calendar year 1984. The Authority, based on estimates of its own, is projecting a growth rate of 25 percent over the entire eighteen-month period. The inflation of medical costs will increase the Authority budget by approximately \$4.3 million in FY.84.

Positive trends developed this year will continue into next. Some of the trends include increased ridership and revenue from both Commuter Rail and transit services and more transportation services for handicapped persons.

In past years, the budget followed a process where resources within the Authority were allocated based on an assessment of past years' performance and future expectations. This process assumed that resources allocated in the past were necessary for continued operations. The only evaluation was for resources necessary for changes in service. Resources were only marginally evaluated through this process, and only minor adjustments were made rather than major changes in resource allocation.

For the budget beginning January 1, 1983, the Authority has modified the budgetary review process in order to make a more detailed evaluation of appropriate departmental resource levels. As this process is refined, it should prove to be a tremendously useful evaluative tool.

The 1983 process for all departments broke down the allocation of resources to correspond to the basic services provided. All resources were justified, not just those affecting service changes. This method of budgetary breakdown allows management to compare different units within the Authority and with other transit systems throughout the country. This system of budget analysis will allow for continuing evaluations with other Authorities, which will result in better information for management decisions.

In addition to the above evaluations, all departments at the Authority are currently working with the Office of Budgets and Operations Analysis to establish clear measures of their performance. These measures, although developed through the budget, will provide information on a monthly basis, which can be used to determine if more or less resources should be devoted to specific departments, and whether or not managers' performance has been satisfactory.

As can be seen, the budget process is evolving into an evaluative tool for management.

The 1983 - fiscal year 1984 MBTA Operating Budget is presented herewith as Table 3-1. To assist the reader in understanding the progress made at the present time, following the budget is a graphic portrayal of the major cost allocations.

Implementation of New Fare Collection Procedures

A new system was installed at the MBTA to improve security and efficiency in dealing with revenues. This system is known as a vacuum fare collection system. With the new vacuum system and modified fareboxes, the vault puller simply attaches a secure vacuum hose to each farebox. The money is then sucked from the farebox, at a high rate of speed, into a large vault. The next morning, the Money Room loads and transports the vault to the Revenue section. The manual steps of extracting, inserting, and emptying each box have been eliminated, resulting in very significant labor savings. In the last several years, this system has been expanded to five more 'surface locations, and funding for the entire Surface and Green Line fleet has been requested and approved. The systemwide implementation will lead to an even greater savings of labor dollars.

After the passage of Chapter 581, a thorough review of the potential subcontracting of the Revenue Collection section's work was undertaken. This study resulted in productivity and efficiency changes in the Money Room, leading to a reduction of approximately \$200,000 in the section's operating budget.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
NET COST OF SERVICE

	1978 Actual	1979 Actual	1980 Actual	1981 Actual	1982 Projected	1st 6 Months 1983	Calendar 1983	Fiscal 1984
Income:								
Revenue from Transportation	\$ 55,196,145	\$ 56,727,454	\$ 56,197,081	\$ 81,811,655	\$ 91,251,611	\$ 46,070,000	\$ 92,140,000	\$ 93,952,800
Revenue from Other Railway Operations	2,103,421	2,263,665	2,047,186	3,101,327	3,300,001	1,788,217	3,576,434	4,094,534
Non-Operating Income	8,099,828	13,650,718	13,622,874	17,227,923	9,129,487	3,397,000	5,723,000	5,349,000
Gas & Oilseal Tax Reimbursable	409,183	431,431	478,847	541,200	541,200	270,000	541,200	541,200
Reimbursement from Outside District	1,861,462	1,969,721	3,389,992	1,509,560	1,300,000	600,000	1,200,000	1,200,000
TOTAL INCOME	67,670,039	75,042,029	86,335,233	104,168,096	105,522,299	52,125,217	103,180,634	105,137,534
Operating Wages and Fringe Benefits:								
Wages	121,425,859	129,721,199	140,574,029	137,873,214	134,569,175	67,081,767	133,347,403	132,765,451
Gen. & Adm. Cost Capitalized-Credit	-	-	-	(2,060,840)	(2,007,783)	(776,785)	(1,553,570)	(1,553,570)
M.B.T.A. Pensions	16,725,658	18,830,410	21,349,749	20,283,101	18,968,153	9,876,450	19,633,631	19,402,444
Social Security Taxes	6,712,769	8,409,994	9,592,495	10,285,167	9,586,153	5,129,507	10,297,606	10,297,606
Workmen's Compensation	1,812,198	2,812,368	3,441,116	3,281,399	3,752,876	2,814,192	3,752,876	3,752,876
Accident and Sickness Insurance	407,533	431,677	438,416	427,971	364,162	180,816	361,632	361,632
Group Life Insurance	688,547	670,677	694,013	909,421	808,405	454,788	909,576	909,576
Blue Cross - Blue Shield	12,685,570	13,590,031	14,403,366	16,403,968	17,374,473	9,924,684	19,849,368	21,654,577
Unemployment Insurance	52,350	267,363	178,800	786,430	400,000	200,000	400,000	400,000
Uniform and Work Clothes	414,089	541,660	587,473	532,615	532,524	350,375	627,773	627,773
Fringe Benefits Cost Capitalized - Credit	(3,408,371)	(5,753,121)	(7,588,894)	(7,482,213)	(7,499,746)	(3,755,135)	(7,510,270)	(7,510,270)
TOTAL OPERATING WAGES & FRINGE BENEFITS	157,516,002	169,522,258	183,670,563	181,340,233	177,609,934	91,480,459	180,116,025	181,069,104
Material and Other Items	21,622,746	24,755,273	30,783,586	30,992,979	33,007,830	19,439,086	37,957,063	41,027,074
Injuries and Damages	2,099,955	2,517,339	2,666,762	2,940,880	2,884,881	1,692,440	3,384,880	3,384,880
Unreimbursed Cost of Service	-	(2,800,000)	2,800,000	-	-	-	-	-
Interest on Unfunded Debt	7,280,540	11,795,984	16,553,721	22,868,808	21,611,565	9,506,250	19,012,500	19,012,500
Fuel	12,261,738	16,208,764	22,265,512	23,239,837	22,343,472	11,600,619	23,341,339	23,635,439
Taxes (Other than Included above)	792,861	864,974	881,531	1,008,541	990,852	495,411	990,822	990,822
Railroad Commuter Subsidy	31,033,826	37,997,194	44,870,592	47,096,950	46,196,373	22,998,186	45,996,373	45,996,373
Local Service Subsidies	895,317	1,112,288	1,517,912	1,511,200	1,613,184	1,100,414	2,074,721	2,074,721
TOTAL OPERATING EXPENSES AND TAXES	233,502,985	261,974,074	306,010,179	310,999,428	306,258,091	158,312,865	312,873,723	317,190,913
Fixed Charges:								
Interest on Funded Debt (M.T.A.)	3,774,469	3,686,265	3,423,192	3,637,624	4,144,824	2,704,484	5,408,968	5,408,968
Interest on Funded Debt (M.B.T.A.)	16,904,784	19,235,046	20,047,186	20,891,292	31,456,901	20,413,739	44,525,895	46,924,313
Payment on Funded Debt (M.T.A.)	2,999,259	2,824,259	2,723,259	2,537,259	2,631,926	1,801,352	3,602,704	3,602,704
Payment on Funded Debt (M.B.T.A.)	9,326,748	9,531,173	10,710,000	10,685,000	12,829,250	8,507,500	17,015,000	19,995,000
Bond Discount Amortization (M.B.T.A.)	-	-	-	21,150	84,600	-	-	-
Miscellaneous Obligations (M.T.A.)	46,879	35,838	56,000	45,989	-	-	-	-
Bank Service Charges (M.B.T.A.)	35,112	49,752	24,000	23,870	101,500	75,000	150,000	150,000
TOTAL FIXED CHARGES	33,087,251	35,162,333	36,983,637	37,842,184	51,249,001	33,502,075	70,702,567	76,080,985
TOTAL CURRENT EXPENSES	266,590,236	297,136,407	342,993,816	348,841,612	357,507,092	191,814,940	383,576,290	393,271,898
COST OF SERVICE IN EXCESS OF INCOME	198,920,197	222,094,378	256,658,583	244,673,516	251,984,793	139,689,723	280,395,656	288,134,364
State Fin. Contract Assist. - M.T.A.	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	1,500,000	3,000,000	3,000,000
State Fin. Contract Assist. - M.B.T.A.	21,696,562	23,840,018	26,524,496	29,906,496	39,161,667	27,914,214	59,170,414	62,791,836
Federal Operating Assistance	26,628,398	27,422,397	29,328,419	26,236,287	20,281,265	10,140,633	20,281,265	20,281,265
NET COST OF SERVICE — LOSS	\$147,595,237	\$167,831,963	\$197,805,668	\$185,530,733	\$189,541,861	\$100,134,876	\$197,943,977	\$202,561,263

Table 3-1

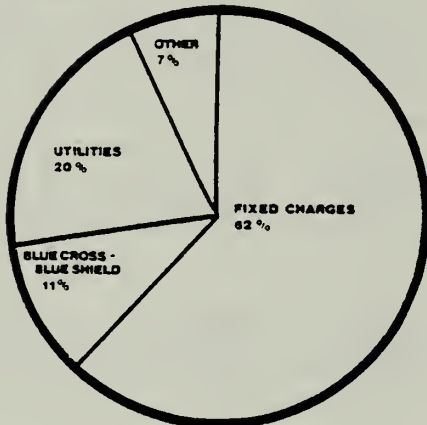
FY 84 Gross Increase/Gross Decrease

The increase over the next eighteen months is primarily caused by three categories: fixed charges, a 62 percent growth, utilities, approximately a 20 percent growth, and Blue Cross/Blue Shield costs, an 11 percent growth (the percent increases are based on the gross increase of \$40 million and not the net increase of \$35.8 million).

FY 84

GROSS INCREASE \$ 40,000,000

GROSS DECREASES \$ 4,000,000



INCREASE

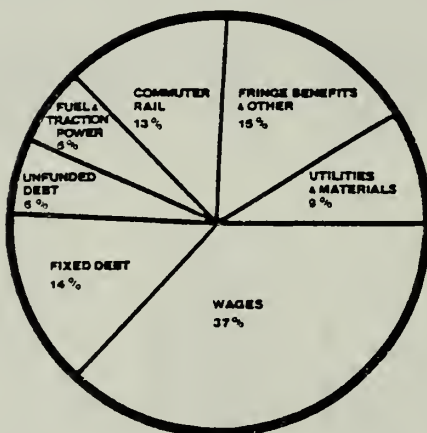


DECREASES

1982 - FY 84

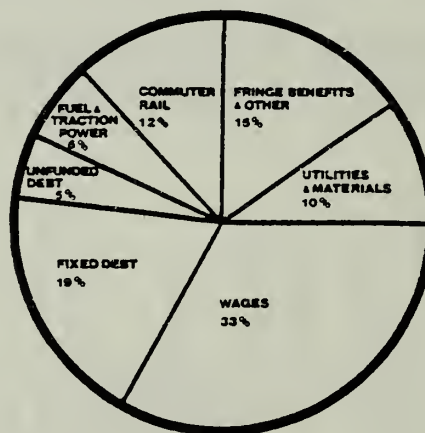
This chart depicts a growth of \$35.8 million from 1982 through the next eighteen-month period. The wages will comprise four percent less of the budget in 1984 than in 1982. The fixed debt share of the budget will increase by 5 percent in 1984 over 1982 to 19 percent of the total budget. Utilities will consume approximately 10 percent of the budget versus 9 percent in 1982.

1982



\$ 357,507,092

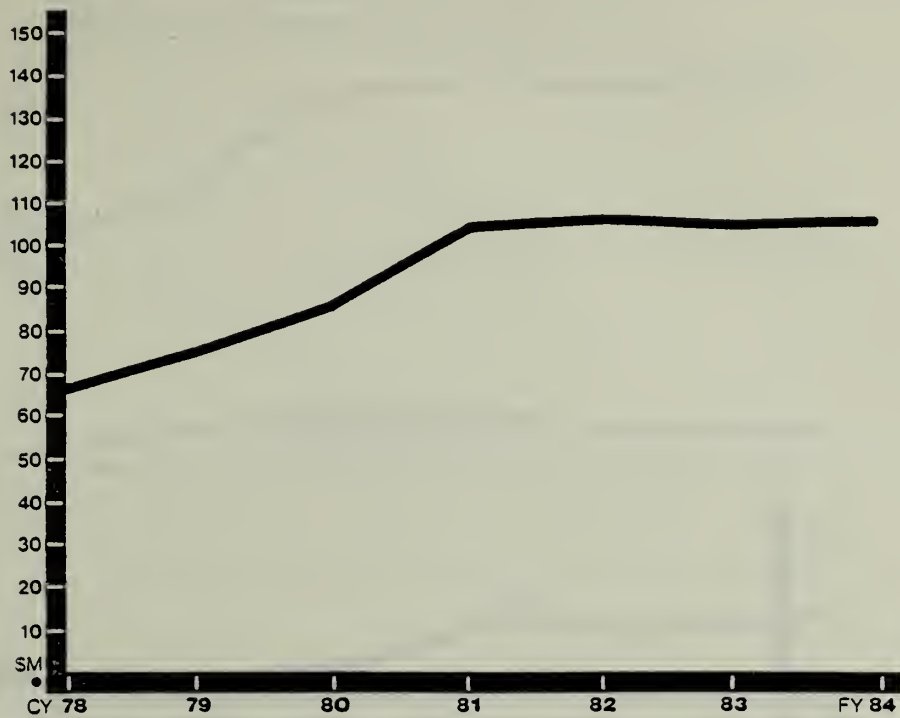
FY 84



\$ 393,271,898

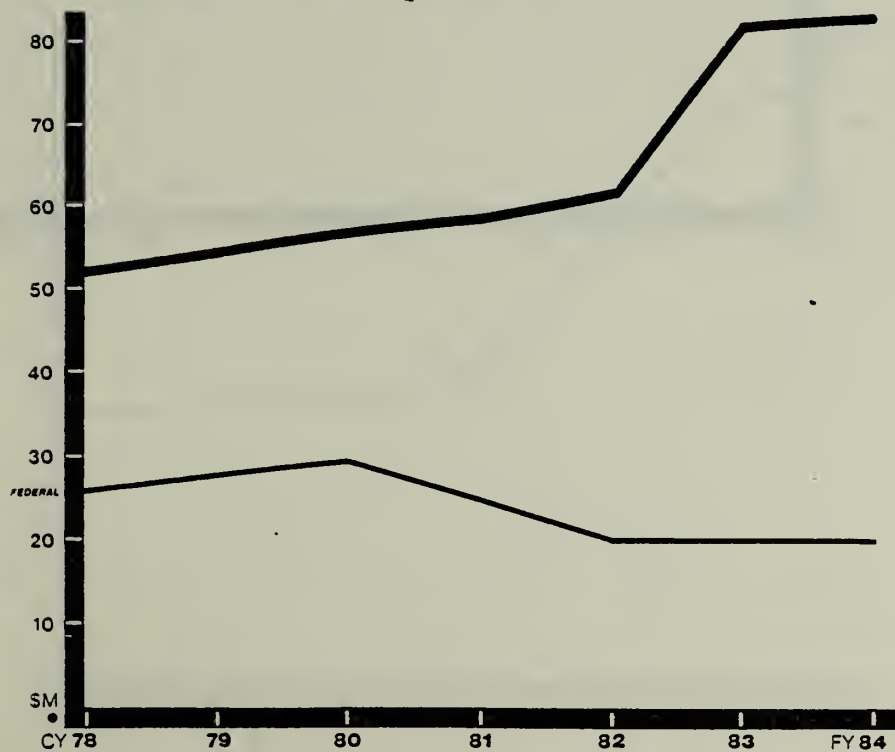
Total Income

Total income, after December of 1982, will increase 4 percent for calendar year 1983 and 6.7 percent over the next eighteen months.



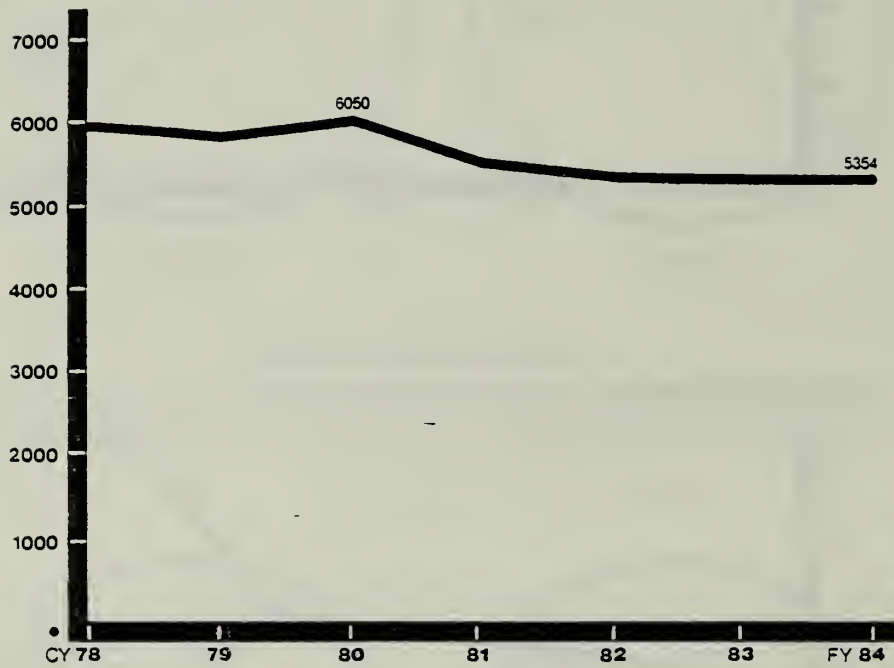
State and Federal Assistance

State assistance will grow in proportion to the fixed debt of the Authority.



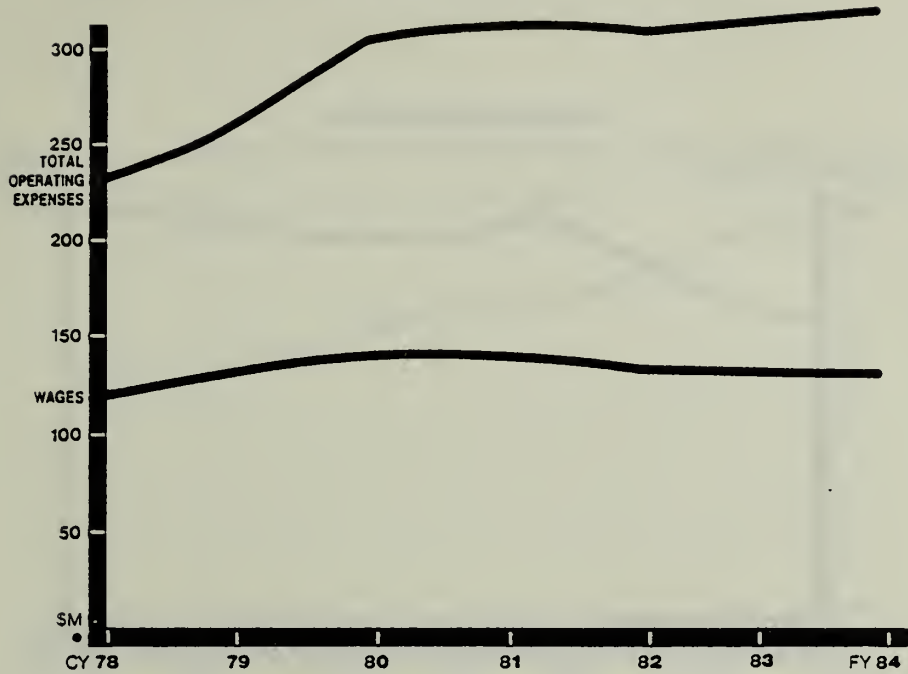
Manpower (Operating)

Manpower at the Authority, by the end of FY 84, will be approximately 700 individuals lower than 1980.



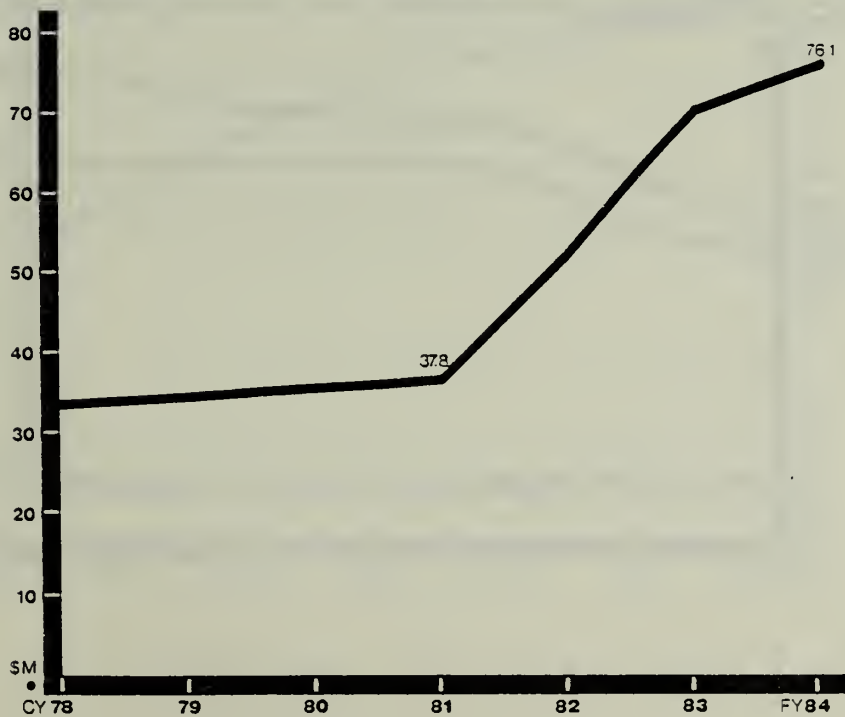
Total Operating Expenses/Wages

By the end of FY 84, wages will have decreased \$9 million from 1980.



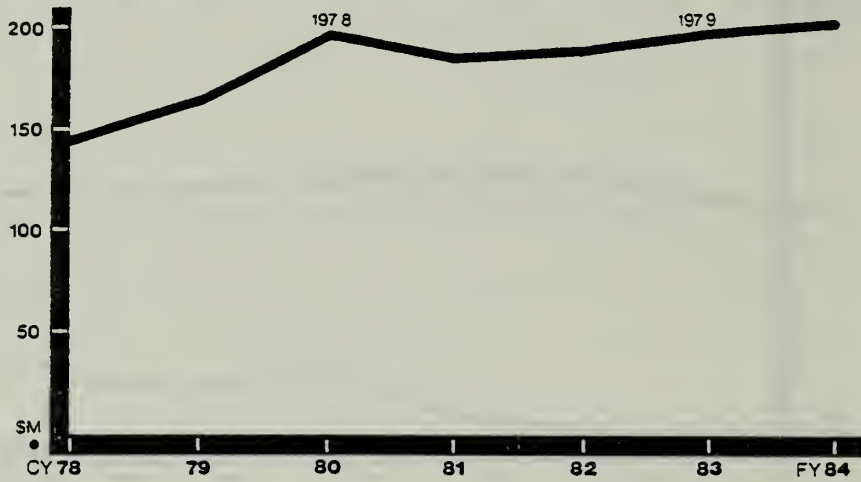
Fixed Charges

Fixed charges to support the capital construction programs are the largest increases in the Authority's budget.



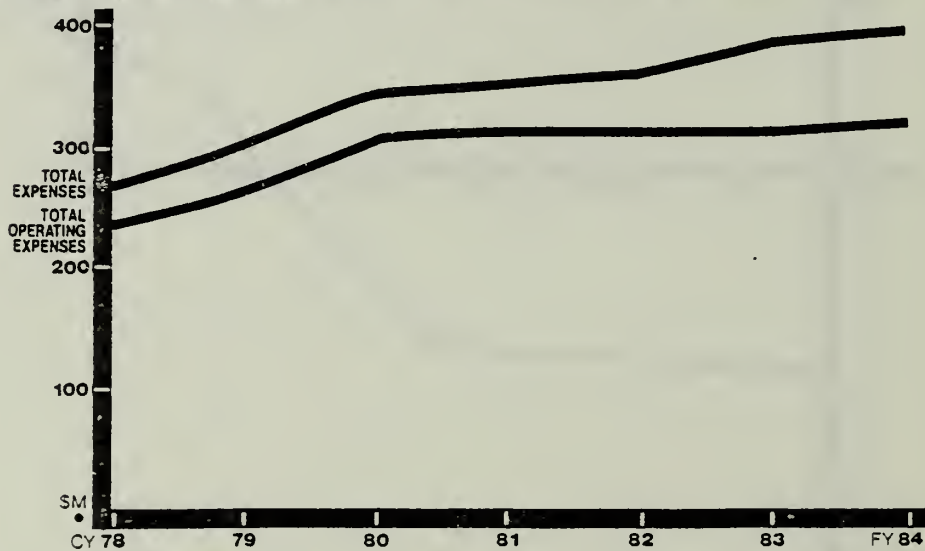
Net Cost of Service/Loss

Net loss of the Authority by the end of calendar year 1983 will be at the same level as the end of calendar year 1980 and will increase only slightly through FY 84.



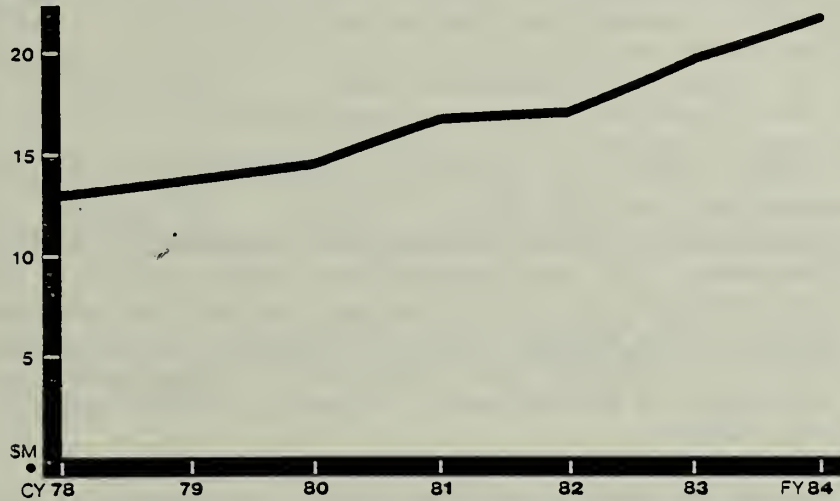
Total Operating Expenses/Total Expenses

Operating expense are those expenses other than fixed charges. In relationship to total expenses, operating expenses sustain a significantly smaller percentage increase.



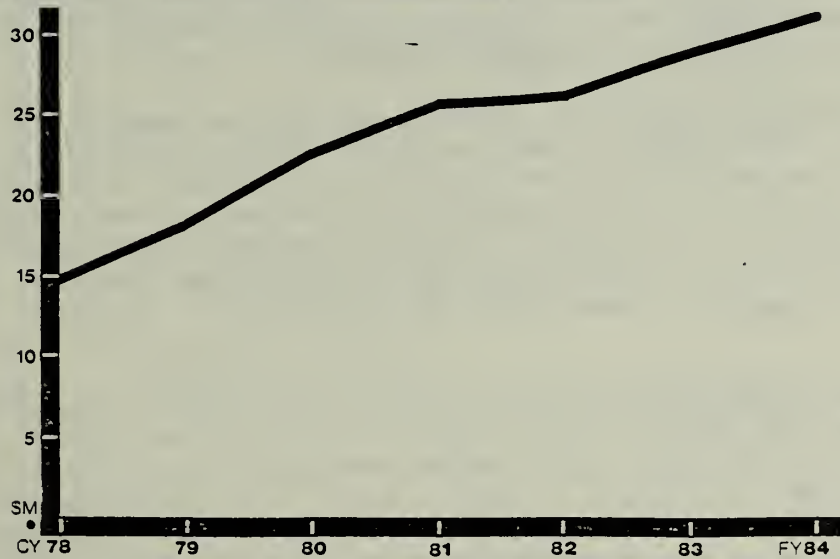
Blue Cross/Blue Shield

Blue Cross/Blue Shield payments for medical coverage of employees will increase by approximately \$5 million over the next eighteen months.



Power and Utilities

Power and utilities will increase by approximately \$6 million over the next eighteen months.



Prepaid Pass Program

The Pass Program began operations in March, 1974, and by the end of the year there were 17 participating companies and 2,300 passholders, representing \$18,000 in revenue.

The program expanded over the ensuing years, and by December, 1979, there were approximately 675 companies participating in the program and 58,000 passholders, representing approximately \$850,000 in revenue. During 1979, the first retail outlet was opened at the Washington Street Concourse for the sale of passes to the general public. In 1980, efforts were made to attract more retail outlets into the program; and as the number of retail outlets increased, a number of the smaller firms dropped out of the program. By December, 1980, there were approximately 640 companies and 73,500 passholders, representing \$1.5 million in revenue. By December, 1981, there were 545 companies and 74,600 passholders, representing \$2.1 million in revenue. By December, 1982, we estimate that the program will have grown to nearly 85,000 passholders and 585 companies, representing approximately \$2.5 million in revenue. The average price per pass has also increased over the years. In 1979, the average was approximately \$14.65/pass; in 1980, the average had increased to \$20.40/pass. Currently the average price per pass is approximately \$28.20.

While pursuing the selling of the passes, the Authority also investigated the idea of using a magnetic type pass in conjunction with a pass reader mounted on a turnstile. After a year of testing by the Authority employees at the rapid transit stations, the new system was introduced on November 1, 1980 to the monthly passholders. The use of the magnetic passes and the readers installed on certain turnstiles allowed the Authority to reduce loss of revenue and recorded ridership.

The Treasurer's Department, Revenue Auditing section, provides the Pass Program with a wide range of administrative support services, including the packaging of monthly orders, the answering of billing inquiries, the reconciliation of accounts, the processing of return passes, and the compiling of statistical data. In an effort to improve the daily cash flow of receipts, a lock box system was established with State Street Bank in July, 1981. Payments are now sent directly to the bank and are deposited the day of receipt.

The Revenue Auditing section has taken on the added responsibilities of administering the Prepaid Pass Sales Office at the Washington Street Concourse. In the last year, this office has experienced a 60 percent growth in monthly sales, reaching its current level of 18,500 passes per month and over half a million dollars in revenue. In response to this growth, we have added another sales day each month and are currently making improvements to the physical plant that will make the sales office more accommodating to the public.

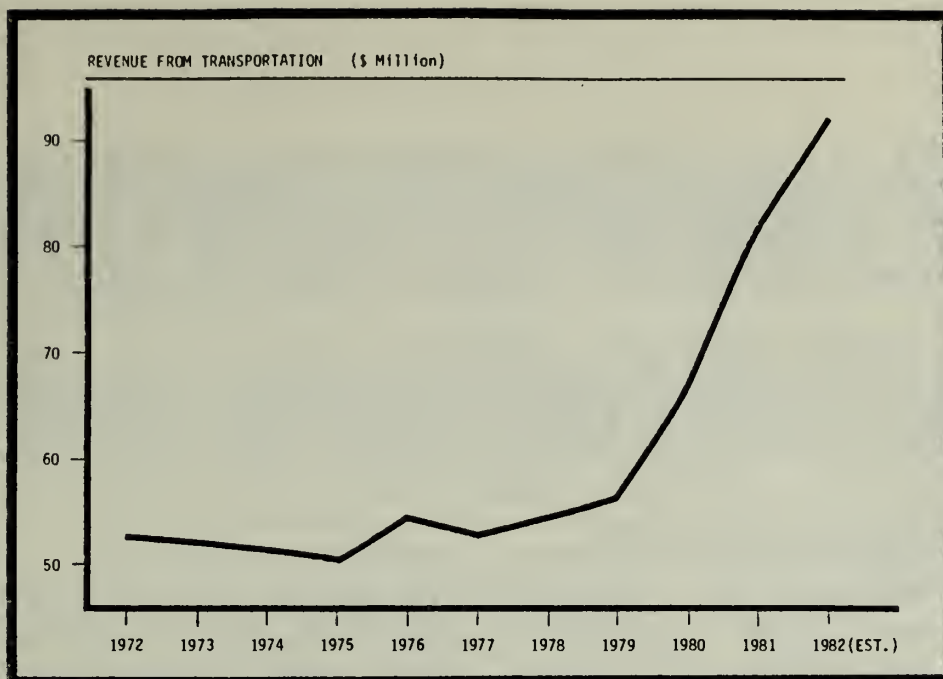


Table 3-2

The MBTA's revenue from transportation for the past 10 years is outlined in the above Table 3-2. Details of this revenue by type of service for 1980 and 1981 are as follows:

	<u>1980</u>	<u>1981</u>
<u>Rapid Transit</u>		
Orange Line (Oak Grove-Forest Hills)	\$ 9,328,784	\$13,248,265
Blue Line (Bowdoin-Wonderland)	2,297,386	2,920,558
Red Line (Harvard/Brattle-Ashmont)	9,353,850	13,269,341
Red Line (South Shore Extension to Braintree)	4,000,511	5,206,861
Green Line Central Subway (Kenmore-Lechmere)	<u>9,692,429</u>	<u>12,741,572</u>
Total Rapid Transit Lines	\$34,672,960	\$47,386,597
<u>Surface Lines</u>		
Streetcar (Green Line: Riverside, Beacon, Arborway, Commonwealth, Mattapan-Ashmont)	\$ 4,727,378	\$ 5,375,632
Trackless Trolley (Cambridge, Belmont, Watertown)	1,271,377	895,844
Bus (172 Routes)	<u>25,110,259</u>	<u>27,766,749</u>
Total Surface Lines	\$31,109,014	\$34,038,225
<u>Miscellaneous</u>		
School Ticket Sales	\$ 407,639	\$ 381,837
Chartered Bus	<u>7,468</u>	<u>4,996</u>
Total Miscellaneous	\$ 415,107	\$ 386,833
TOTAL TRANSPORTATION REVENUE	\$66,197,081	\$81,811,655

During the 70's, the trend of passenger revenue followed closely that of the overall economy. In 1980 and 1981, the Authority implemented fare increases, as did transit agencies nationwide, attempting to alleviate the burden of skyrocketing operating costs. In May 1982, the (T) decreased rapid transit fares as part of a program to increase ridership.

In reviewing revenue and ridership for 1982 to date, the projected figures for 1982 may be surpassed by 2 to 3 percent. The Authority is in the process of conducting a passenger survey which will produce valuable information concerning the profile of riders as well as overall ridership numbers.

MBTA Systemwide Fare Structure

The Authority has a zoned fare structure on its bus, streetcar, and rapid transit routes. In addition to cash fares, the (T) sells tokens which have a cash value of 60 cents. Also, monthly prepaid passes are a convenient way for the Authority's passengers to pay their fares.

In the Appendix of this report are charts summarizing the current systemwide fare structure for each mode, including commuter rail. The restrictions and special fares are depicted along with descriptions of all monthly prepaid passes. For more detailed information on specific routes, the Authority has updated its comprehensive Systemwide Fare Tariff book to include all current fare changes through December 1982. Every route in the system is listed on a separate page, each page containing information on hours of operation, monthly passes valid, fares (including zone fares where applicable), restrictions, and other special fares.

Funding the Capital Program

In January, 1979, the Urban Mass Transportation Administration, in conjunction with the U.S. Treasury, initiated a Letter of Credit system to allow the MBTA to promptly withdraw funds to meet the immediate cost disbursement needs of various projects. One of the fundamental requirements is that the grantee is authorized to make withdrawal only on the "cash" basis, which is the amount of cash actually being paid out for bills and invoices that have been received and are due and payable; and not on the accrued expenditure basis (the receipt of goods or services for which payment is not yet due).

Request for Payment on Letter of Credit is prepared at least weekly and submitted to the U.S. Treasury (Philadelphia Regional Disbursing Center, Philadelphia, Pennsylvania) for payment. The U.S. Treasury check is usually received within four to seven days, enabling the Authority to make timely payments to the contractors. Due to the timely receipt of federal funds, the Authority no longer has to use a substantial sum of its bond funds to cover UMTA's share of expenditures. The amount drawdown under this Letter of Credit from February 28, 1979, through November 12, 1982, is \$851,725,076. At present, there are 51 of the Authority's active projects covered by this procedure, and the average weekly drawdown is \$5,630,000.

UMTA has been requested to consider designating the Federal Reserve Bank of Boston as the disbursing center instead of the Philadelphia Regional Disbursing Center, which would, in our case, reduce the elapsed time between submittal of request and receipt of federal funds from the present four to seven days to two days.

A \$2 billion construction program has been developed over the last decade. The projects are approximately 80 percent funded by the federal government and 20 percent by the Authority. The MBTA issues long-term bonds to raise the 20 percent portion of the construction cost. The volatile market of the last several years has led to higher interest rates, and, as a direct result, a significantly higher Fixed Charges Budget request from the Authority. The Fixed Charges Budget Increase for the 1982 Budget amounted to \$13,406,817, or 35.4 percent higher than 1981. The total Budget increase for 1982 amounted to \$8,665,480, or 2.5 percent.

The Authority has always been aggressive in its borrowing practices. Depending upon market conditions and the approval of the State Finance Advisory Board, the Authority has negotiated or publicly bid debt issuances. The rates the Authority has received have been excellent when compared to other public sector debt issuers.

The Authority constantly examines new ways of lowering the costs associated with financing equipment and material purchases. In late 1981, the Authority took advantage of the Safe Harbor Leasing legislation, which resulted in a \$3,000,000 benefit to the Authority. In early 1982, the Authority was the first agency in the state to issue "zero" coupon bonds. This financing technique is expected to save the Authority \$6,900,000 over the life of the issue.

Updating and Improving Accounting Functions

The Authority's Accounts Payable section processes approximately \$2 billion in payments and investments during the course of a year. During 1979, a new on-line system was developed for this section. After several months' parallel testing, the new system was accepted and put into operation in March of 1980.

This on-line system has enabled the Authority to meet its commitments in a more timely manner by eliminating many manual functions. Purchase order prices, values, extensions, and receipts are now checked and computed by the system. Payment errors have been greatly reduced due to the system safeguards, and the Authority is now able to take advantage of discounts offered by vendors for timely payment.

The General Accounting section has expanded the Bus Cost Allocation to a detailed Modal Cost Allocation (MCA). Utilizing the source information available on the Authority's Responsibility Accounting System, the MCA develops the cost by mode of all services, such as bus, trackless trolley, rail rapid, etc. This allocation is a key ingredient in the Authority's assessment procedure.

As a result of working closely with other transit authorities and the Urban Mass Transportation Administration, the General Accounting section has saved much time and expense in the preparation of the Authority's applications for Federal Operating Assistances (Section 5 Funds).

In order to respond to the need for reliable comparative financial and operating data throughout the transit industry nationwide, UMTA developed Project FARE (uniform Financial Accounting and Reporting Elements) during the mid-1970's. As a result, the MBTA has been required, since 1978, to submit a lengthy annual report to UMTA conforming to specified criteria on various aspects of our operation, including financial and non-financial data. Non-compliance with this report could result in UMTA holding back operating assistance.

The MBTA converted from the ICC uniform method of reporting to the FARE (also known as Section 15) reporting requirements. The Treasurer's Department must also accumulate the other financial and operating data necessary from the entire (T) system. Each year, since the initial report was filed in fiscal 1978, the Authority has been asked to submit greater detailed information, including our purchased transportation services, commuter rail, and special needs.

MBTA MANAGEMENT RIGHTS IMPLEMENTATION/
COST SAVINGS AND MANPOWER REDUCTIONS

CHAPTER IV

Chapter 581 of the Acts of 1980 was enacted by the Legislature and signed by the Governor on December 7, 1980. This Chapter, which amends G.L. Ch. 161A, the MBTA's enabling statute, is commonly known as the Management Rights Act because it provides M.B.T.A. management with the capability to operate the Authority in a manner consistent with normal management prerogatives.

Prior to enactment of Chapter 581, rising labor costs were a major factor in the Authority's fiscal crisis which led to systemwide shutdown due to lack of funds on December 6, 1980. By removing selected issues from the collective bargaining process and declaring them to be matters of "inherent management right", the Legislature has enabled the Authority to better control its labor costs and operate more efficiently in the face of changing economic conditions. Section 8 of Chapter 581 contains the following management right provisions.

- o The right to direct, appoint, employ, assign and promote officers, agents and employees.
- o The right to discharge and terminate employees, subject to specific clauses which prohibit such discharge or termination on the basis of race, color, religion, sex, age, national origin, handicapping condition, marital status, political affiliation, or union activities.
- o The right to plan and determine the levels of service provided by the Authority.
- o The right to direct, supervise, control and evaluate the Authority's departments, units, and programs; as well as the right to classify positions and establish duties and productivity standards.
- o The right to develop and determine levels of staffing and training.
- o The right to determine whether goods or services should be made, leased, contracted for, or purchased on either a temporary or permanent basis.
- o The right to assign and apportion overtime.
- o The right to hire part-time employees.

In addition to the provisions listed above, Chapter 581 has also prohibited automatic cost of living increases in the wages of Authority employees; eliminated the requirement of one guard for every two cars on rapid transit vehicles; changed the Authority's fiscal year to coincide with that of the State; altered the structure and responsibilities of the Board of Directors and changed the process of issuing notes and bonds.

Immediately after the enactment of Chapter 581, the affected unions sought injunctive relief from the provisions of the Statute in state courts. Preliminary injunctive relief was granted until July 1, 1981, when the union's request for a permanent injunction was denied in State Superior Court. Further appeals were taken to Federal District Court and the U.S. Court of Appeals to challenge the constitutionality of Chapter 581.

Implementation of the provisions of Chapter 581 did not begin until after the First Circuit Court of Appeals issued its decision upholding the Statute on September 30, 1981.

Once Chapter 581 had been declared constitutionally valid by a court of competent jurisdiction, MBTA management began a systematic implementation of its terms. A management task force was established to evaluate existing work rules and identify those areas where changes would result in immediate labor cost savings without affecting the level of service provided. Meetings were also held with representatives of the various unions to discuss the impact of these changes and to solicit input and recommendations for future cost savings and productivity improvements.

Many cost saving measures have already been implemented, and management's effort to reduce operating costs and increase productivity will continue. Among others, the following actions have been taken in accordance with the management rights provisions of Chapter 581:

- o A new policy regarding the allocation of overtime was instituted. This new policy changed the strict seniority-first rule to one which enabled management to select the most capable and available person for the overtime work. The new policy also incorporates a provision which prohibits workers with poor attendance records to be eligible for overtime. During 1981, MBTA management reduced overtime expenditures by \$5,803,149, or a reduction in overtime hours of 60%.
- o A new policy was implemented enabling the Authority to assign more than one detail or task to an operator at a time. Operators now can be assigned more than one detail without having to return to their originating point, thus increasing the productivity of those employees.
- o The Authority stopped the practice of allowing senior individuals to obtain overtime on night work trains if such overtime resulted in the inability of that individual to work his or her regularly scheduled work on the next day (six-hour off work rule). This practice had created overtime expenditures for those individuals who were not able to perform the next day's regularly scheduled work.
- o The MBTA stopped the practice of restricting operators from going to another location to cover a vacant run. Old rules prohibited the reassignment of individuals between locations.

- o The Authority abolished a work rule which prohibited a conductor on the second car of a Green Line train from being reassigned as the Operator of a one-car train.
- o The Authority initiated a series of meetings with the Carmen's Union regarding the work practices within the Authority's money room operation. These meetings resulted in a plan agreed upon by union and management. Based on expenditures through July, 1982, the projected annual savings in the operation of the money room is expected to be \$171,353. This savings has been achieved without any new equipment, i.e., strictly through increased productivity. Additional savings can be expected now that new equipment has begun to arrive.
- o The Authority reassigned car cleaners and shifters on the Green Line to locations and work shifts where management determined a need existed. This was accomplished without observing former restrictions requiring bidding for locations and shift times.
- o Management established a policy that, if a car cleaner on the Green Line was qualified to perform shifter's work, he would do so if the need existed. Conversely, if a shifter was not shifting and cleaning work was needed, shifters would be required to clean vehicles.
- o The Authority reclassified stock clerks as roving stock clerks. They now may cover more than one location. This action has resulted in increased productivity and a cost avoidance of hiring stock clerks for each location (\$30,000 to \$60,000 in savings).
- o The Authority reassigned 22 of 44 track walkers to preventive maintenance and other duties. The remaining 22 track walkers were assigned to cover track based on needs as determined by track reliability data.
- o A contract for Watchmen Services at the Charlestown Yard, Everett Shops and South Boston Power Plant was signed on May 27, 1982. The one-year contract is for \$163,501 and is expected to save the Authority \$234,443 (59% of the former cost of the service).
- o The Authority developed specifications for the cleaning of stations, buildings, and vehicle interiors. Bids were received and as a result, the following cleaning contracts have been awarded:
 - Interior Cleaning of buses at the Charlestown, Fellsway and Lynn Garages. Work under this contract commenced on June 7, 1982. Estimated cost for the year is \$276,768.60 based on actual expenditures through July 16, 1982. The contract award was for a maximum of \$316,195.92. Based on actual expenditures, savings are projected to be \$157,231.40 on an annual basis (28% of previous costs).

- Blue Line Station Cleaning. Work commenced on June 26, 1982 under a contract awarded for a three-year period at a cost of \$790,236.00 (including escalation). Actual per year cost to the Authority is currently \$243,900 without escalation. Annual savings are estimated to be \$140,008, which includes savings on supplies. The annual savings alone amount to 37% of previous costs.
- Janitorial Contract covering 24 Authority locations. Work under this contract began on June 21, 1982 and was fully operational by July 19. The total contract cost is expected to be \$674,474. Initial implementation of the contract saved the Authority \$136,259. Additional savings of approximately \$246,924 are anticipated once all the reassignments resulting from this contract have been completed. Total savings will therefore be \$383,183 (36% of previous costs).
- Interior Cleaning of buses at the Albany, Cabot, Bartlett, and Quincy Garages. The current cost of these services is approximately \$498,400. Savings are anticipated to be approximately \$134,630 (27% of present costs). Additional savings due to consolidation of work force at all seven bus garages is also anticipated.

The following cleaning contracts are expected to be awarded within the next few months:

- Contracts for the Interior Cleaning of Rapid Transit and Green Line Vehicles have been advertised and are expected to be awarded in the near future. These contracts are expected to save the Authority 26% - 40% of the cost of providing equivalent service with Authority employees.
- Station cleaning contract(s) for 25 additional stations, which are expected to save the Authority approximately \$283,196 (32% of present costs) on an annual basis.
- o Contract for the rebuild of approximately 50 bus transmissions over a one-year period. This contract is a pilot program to determine the overall cost effectiveness of contracting for this work. Costs under this program will be equivalent to the cost of rebuilding the transmissions in-house. The Authority hopes that outside contracting will result in longer transmission life.
- o The Authority changed the method of rubbish collection to enable carhouse and garage personnel to dispose of rubbish into dumpsters rather than sending special groups of workers out to pick up trash.
- o The Authority stopped the practice of sending two welders and two grinders on work assignments. Now one welder and one grinder will be assigned to accomplish the same work previously done by four employees.

- o The Authority abolished two tool room attendant positions and reassigned the individuals as car cleaners. This avoided approximately \$60,000 in labor costs which would have occurred if the vacant car cleaner positions were filled with outside personnel.
- o The Authority reassigned 36 repairmen on the Green Line to locations and shifts as determined by management.
- o The Authority reassigned 27 individuals working on LRV modifications to new shift hours.
- o The MBTA eliminated the system-wide selection of work by surface operators which was scheduled for 1981. This action will save approximately \$85,000 in training and retraining costs.
- o The MBTA curtailed the posting and bidding of vacancies which in the past has created extensive movement of the work force among the various locations of the Authority. This action will result in a savings of approximately \$150,000 associated with training, retraining and administration time.
- o During November, December and January, the Authority held meetings with the Carmen's Union regarding the employment of part-time bus operators. The Union strongly objected to implementation of part-time operators, but the Authority integrated 20 part-time employees into the winter schedule in Quincy. Since then, the employment of part-time operators has continued at a more rapid pace than originally anticipated. Eighty part-time operators were added to the summer 1982 schedule. An additional 120 part-time operators are being hired for the fall 1982 schedule, and 200 more will be added during 1983/FY84. Annualized savings from the hiring of part-time workers may exceed \$6 million.
- o The Machinists' Union was advised in two meetings during January and February, 1982, that it is the intention of the Authority to implement part-time fuelers in the automotive area and to combine machinists' classifications in the Everett Shops. The use of a third classification of mechanics to take over fueling tasks, allowing 39 1st and 2nd class mechanics now performing these duties to be reassigned to bus maintenance and repair is now anticipated to start by the fall of 1982. This reassignment will be phased in at all garages over a period of several months. Annual savings to the Authority will be approximately \$685,000 based on the lower rate of pay for this third classification. Additionally, increased productivity by reassigning trained mechanics from their fueling duties to bus maintenance is expected.
- o Also accomplished in 1981, either directly by the passage of Chapter 581 or by the assistance it afforded, were:

- Reduction in the number of "T" employees in 1981 by 609. The annualized savings of this decrease is approximately \$21 million.
- The contribution required on overtime earnings to the pension fund was abolished. The annualized savings to the Authority based on 1981 overtime would be approximately \$515,000.
- Abolition of automatic cost-of-living salary adjustments. Savings over the last year is \$15 to \$20 million.
- o The Authority integrated thirteen part-time gatemen into the summer 1982 schedule. Annualized savings from this action are expected to be approximately \$165,000.
- o The Authority placed a system-wide restriction on the internal bidding procedures. All employees must now stay a minimum of two years in a job before they are eligible to bid for a new position. This should increase productivity and reduce the costs normally associated with the constant movement of employees (such as training and administrative costs).
- o Engineering and Maintenance electrical workers have been re-assigned and will only be allowed to bid for jobs for which the Authority determines they are qualified. This will increase productivity and decrease training costs.
- o The Authority eliminated the practice of requiring yard motormen to drive tampers out of the yard. Operators now perform this function, eliminating the overtime that was usually paid to yard motormen for this duty.
- o The Authority has changed the normal work week for trackmen to include weekends. This decreases overtime paid for weekend work. It also increases productivity and reduces service interruptions by allowing the Authority to increase the amount of track work done on weekends when fewer vehicles are operating.
- o The practice of having to assign five roofers every time a "kettle" is used has been eliminated, resulting in increased productivity.
- o The Authority is now purchasing, from private companies, fabricated ductwork as necessary. Previously all such work had to be done in the Authority's own shops.
- o Warranty repair work on buses, which in the past had been performed by Authority personnel, was recently done by representatives of the bus company (Canadian Flyer). This led to an increase in productivity (Authority bus mechanics could continue with their regular duties). This action should also improve the strength of any future claims made under the warranty agreement.

- o The Authority established a new classification and rate of pay for information specialists. By establishing a new classification for this work, the Authority avoided higher costs for the work. The information specialist should improve the Authority's ability to deliver information to the public.
- o The Authority has eliminated the practice of automatically assigning track switch cleaners to work in pairs over the winter. Whether or not cleaners are assigned in pairs will be determined by management. This will result in increased productivity.
- o Engineering and Maintenance crew sizes, which were previously determined by collective bargaining agreement, are now being evaluated and assigned at management's discretion (4-man power line crew, 3-man emergency crew).

As can be seen throughout this Chapter, the Authority has aggressively pursued the management prerogatives which were provided with the passage of Chapter 581. A great deal of time and energy has been dedicated to this effort, but the cost savings already realized along with those programmed for future years will enable the Authority to reap financial benefits heretofore impossible to achieve.

PERSONNEL AND LABOR RELATIONS

CHAPTER V

The Personnel Directorate provides staff support and services to all Authority departments on matters of employee relations, compensation, training, performance, recruitment, promotion and absenteeism. It provides guidance and counseling to departments on personnel and labor relations matters, negotiates and administers labor contracts with twenty-nine unions; screens, recruits, examines and selects candidates for employment and administers the Authority's self-insured Workmen's Compensation Program. The Directorate also maintains all personnel records and information and develops programs to increase and maintain employee morale. For the employee, the Directorate provides educational counseling, training and development programs, and a counseling center to assist employees with alcohol, drug abuse, and other behavioral problems.

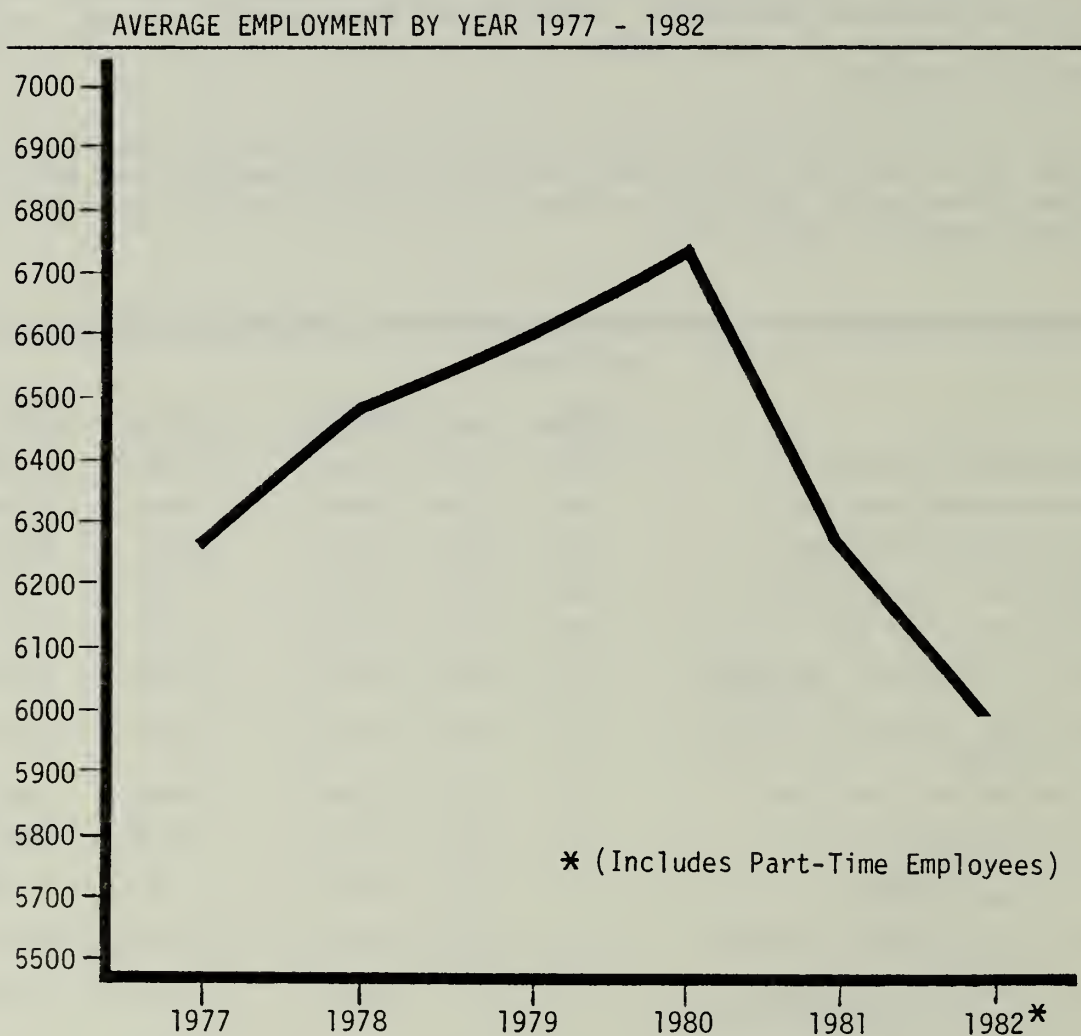
As of October 30, 1982, a total of 6,063 employees of the Authority were covered by the various programs and functions of the Personnel and Labor Relations Directorate. Table 5-1 reflects the number of employees at the MBTA and their specific affiliations.

	UNION CONTRACTS				Current Status
	No. of Employees	Last Date	Agreement Expiration	Date Executed	
Amalgamated Transit Union, Div. 589	3,166	1-1-78	12-31-80	8-8-79	Arbitration
Starter and Inspectors Association	267	1-1-81	12-31-83	9-23-81	Effective
Bldg. & Construction Trades Council	451	4-1-79	3-31-82	11-6-79	Negotiations
Lodge 264, Intl. Assn. of Machinists	438	1-1-76	12-31-77	3-9-77	Arbitration
Local 453, Office & Prof. Empl. Intl. Union	277	1-1-78	12-31-80	2-13-80	Arbitration
Local 6, Office & Prof. Empl. Intl. Union (Clerical)	170	1-1-76	12-31-77	1-24-77	Arbitration
Local 104, Intl. Brotherhood of Electrical Workers	106	1-1-78	12-31-80	11-5-79	Negotiations
Local 105, Amer. Fed. of Tech. Engrs.	219	1-1-78	12-31-80	10-21-80	Negotiations
MBTA Police Association	60	1-1-79	12-31-80	9-10-80	Arbitration
Local 3, Intl. Brotherhood of Firemen and Oilers	7	1-1-76	12-31-77	1-3-77	Negotiations
Local 717, Intl. Brotherhood of Electrical Workers	47	1-1-76	12-31-77	11-17-76	Negotiations
Local 651, Intl. Union of Boilermakers, Iron Ship Builders, Blacksmiths	14	1-1-76	12-31-77	12-16-76	Negotiations
Local 6, Office & Prof. Empl. Intl. Union (Investigators)	7	1-1-76	12-31-77	1-24-77	Arbitration
Local 6, Office & Prof. Empl. Intl. Union (Adjusters)	1	1-1-76	12-31-77	1-24-77	Arbitration
Alliance of MBTA Unions	280	2-1-81	1-31-82	10-23-81	Negotiations
Towermen & Master Control Operators	26	1-1-78	12-31-80	12-7-79	Negotiations

Table 5-1

In August of 1978, a peak manpower level of 6,780 employees was reached at the MBTA. An intense effort has been made, particularly this past year, to reduce the total number of Authority employees. Included among the present 6,063 employees are, 313 part-time Operators and Collectors, recently hired in accordance with new "management rights" legislation. Employment levels at the MBTA are demonstrated in Table 5-2.

Table 5-2



Personnel Services Section

The Personnel Services Section administers the performance evaluation programs, sick leave program, wage and salary administration, recruitment administration, personnel records, management and development programs, employee moral problems, Personnel MIS System (PMIS), and personnel and labor relations research programs. This section also designs and conducts training and instructional programs for line employees, supervisory and management staff. It provides staff assistance to other Authority departments in training, personnel, labor and employment matters.

As the result of an order of the court, the MBTA instituted a lottery selection process for bus operators during the 1970's. While that program did provide a method of selection which was presumed free of discriminatory process, it did not provide a screening capability by which the Authority could determine a person's aptitude for the position of bus operator. With the aid of federal funds, the Authority joined with several other transit operators and the University of Chicago to develop a validated test designed to identify persons best suited for the job.

In 1979 a validated test was published and the Authority moved to include the test as the screening adjunct of the Bus Operator Selection Program. During early 1980, a new Bus Operator lottery system was developed and the inclusion of the test provided the primary method of determining which person drawn from the lottery were the most likely to succeed in the position of Bus Operator. Again in 1982, subsequent to the passage of Chapter 581, Acts of 1980, the Authority used the lottery and screening test to establish a list of candidates for part-time bus operator positions.

During the past two years, some 5,000 persons have been tested and while the layoffs which occurred during the 1980-81 budget crisis prevented an accurate study of the success rate of those who passed the test and were then hired, the Authority has now embarked on a specific study of test results versus job success.

In an effort to insure that actual test result data and employee success rates compare with the projected normal values established in the developmental process for the original test, the Authority will monitor the progress of persons employed under the test standards.

In 1979, after several years of planning and identifying a funding source, the Authority, with the assistance of a technical consultant, developed a basic design document for the PMIS. During 1980, a contract for final design and implementation services was awarded and work progressed through the close of 1981. In early 1982, the final system design and implementation format was presented to the Board of Directors for approval. Because of the large number of Management Information Systems that had been proposed throughout the Authority, a sub-committee of the Board was established to review and coordinate the development of computer systems. While progress on the PMIS was slowed by the review process, the outcome of this detailed examination of need and design proved beneficial. Effective in November of 1982, the Board of Directors approved the award of an implementation contract with a target date of early 1983.

Achievements:

- o Final design and implementation of Personnel Management Information System
- o Introduction of a validated test for Bus Operator candidates
- o Testing of more than 5,000 candidates for Bus Operator
- o Redesign and implementation of the Management Training Program
- o Development and implementation of test battery for entry level Machinists
- o Development and implementation of Authority-wide interview panels for personnel selection
- o Coordination of EEO/AA policies with position qualifications
- o Development of a uniform candidate selection process and test format for Starters, Inspectors, and Dispatchers
- o Improved sick leave claims monitoring and investigation program
- o Twenty percent increase in the number of Section 10 grants for employee training
- o Initiated a review of employee benefit programs including life insurance, health insurance, and payroll savings.

Labor Relations Section

The primary function of the Labor Relations Section is that of liaison between MBTA management and the twenty-nine unions representing employees at the Authority. The section is responsible for the negotiation, administration and interpretation of sixteen separate collective bargaining agreements with these trade organizations. In addition, the Labor Relations staff handles grievance and interest arbitrations and represents the Authority on labor and employment matters at the Massachusetts Labor Relations Commission, Board of Conciliation and Arbitration, and the Division of Employment Security.

The Labor Relations Section also provides advice and guidance to Authority managers on all labor matters, including the application of the Uniform Discipline Code and the principles of progressive discipline. More recently since the enactment of Chapter 581, the Labor Relations Section has worked closely with both unions and management to implement the new management rights provisions in such a way as to reduce labor costs and increase productivity without undue disruption in the work place.

Collective bargaining at the MBTA has historically followed the pattern set by the Authority's largest union, Local 589, Boston Carmen's Union. Traditionally, the several smaller unions have waited to negotiate their individual labor agreements until Local 589 has settled, either by negotiation or binding arbitration. At the present time, most of the collective bargaining agreements have expired; and a new contract with Local 589 is being arbitrated. An award from Arbitrator James J. Healy which incorporates the provisions of Chapter 581 is anticipated by January 1, 1983. It is expected that the remaining expired collective bargaining agreements will be negotiated soon thereafter.

Inasmuch as Local 589 sets a pattern for settlements with the other unions, the following chronology of negotiations is presented, pursuant to the formulation of a new agreement.

- o In July 1980, the Authority and Local Division 589 exchanged proposals for a new collective bargaining agreement.
- o Between July 1980 and September 1980, the parties met in several negotiation sessions without reaching agreement.
- o On September 30, 1980, the Union invoked arbitration seeking to proceed with a tripartite board as opposed to a single, neutral arbitrator, as required by law.
- o On October 7, 1980, the Authority responded, designating Robert E. Holland as its arbitrator, but sought to continue negotiations and, if that failed, to enter into mediation as a means of resolving the differences. At that time, the Authority also notified the Union that it was reserving its rights to insist on compliance with Chapter 405 of the Acts of 1978 and to pursue this matter in the courts.
- o The Union, on October 21, sought a list of five arbitrators from the American Arbitration Association. The Authority refused to select the third arbitrator and thereby establish a Board of Arbitration which would have been contrary to the law.
- o On December 7, 1980, the Legislature passed and the Governor signed into law Chapter 581 of the Acts of 1980. Soon after its passage, the Authority wrote to Local Division 589 informing the Union that it intended to honor, abide by and adhere to all of the requirements of that Act.
- o On December 31, 1980, the Agreement with Local Division 589 expired.

- o During this time, there were also some scattered negotiating sessions held between the Parties.
- o On February 2, 1981, the Union filed for a preliminary injunction in the United States District Court. The Union sought to have the court order the MBTA to negotiate on all matters, including those proscribed as inherent management rights, and to arbitrate, in accordance with the collective bargaining Agreement, not the statute.
- o On March 17, 1981, Judge Skinner ruled that Chapter 581 was invalid and that the Parties should proceed to arbitration under a combination of the procedures required by contract and statute.
- o Pursuant to this court order, Marcia Greenbaum was selected as the neutral arbitrator and the parties proceeded with the presentation of their cases, which took a total of 37 days between May and October 1981. This arbitration was conducted before a Board of Arbitration, but applied the statutory standards prescribed by Chapter 405. Both sides introduced evidence on matters that under Chapter 581 would have been removed from collective bargaining.
- o Prior to completion of the above interest arbitration, the Court of Appeals for the First Circuit overturned the decision of Judge Skinner and found Chapters 405 and 581 of the Acts of 1978 and 1980 respectively, valid. This decision became effective in October 1981.
- o The Parties resumed negotiations. A tentative agreement was reached during these negotiations, but subsequently, the negotiating committee reversed its vote in favor of acceptance and the agreement was withdrawn.
- o While negotiations were proceeding, the Parties were also proceeding with mediation, as required by law. On May 18, 1982, the mediator from the Massachusetts Board of Conciliation and Arbitration reported that the Parties were still at an impasse.
- o The Union, at this time, was also pursuing its appeal of the First Circuit Court of Appeals' decision to the U. S. Supreme Court. During this time, the Union also filed for several restraining orders or injunctive relief seeking to stop the Authority from implementing various aspects of Chapter 581. On June 14, 1982, the U. S. Supreme Court denied Local Division 589's writ of certiorari.
- o On May 19, 1982, the Union invoked arbitration pursuant to G.L., c. 161A, as amended by Chapters 405 and 581. On June 18, 1982, the Parties selected Professor James J. Healy as arbitrator.

- o The Parties amended their original proposals, exchanged in July 1980, and have received an interim ruling from Professor Healy regarding certain procedural matters. That ruling appears to be in conflict with the law, and the Authority has noted its objection.
- o The Parties have completed 22 days of hearings before Arbitrator Healy. Written briefs will be submitted before December 6, 1982 and an Award is expected before January 1, 1983.

The Labor Relations Section has been instrumental in implementing the Management Rights Provisions of Chapter 581 and has incorporated its terms in collective bargaining agreements being negotiated or arbitrated. Labor/Management relations have been strained due to: the lack of a collective bargaining agreement since 1980; changes in past practices and work rules; and the uncertain status of Chapter 581 during a lengthy appeals process. Despite these conditions, disruption in the workplace has been kept to a minimum. Acceptance of the management rights provisions has been gradual and labor relations will undoubtedly improve, once a new labor contract incorporating its terms has been arbitrated and accepted by the parties. It is the intent of management to continue gradual implementation of management rights, in order to reduce costs and increase productivity. However, input will still be encouraged from the unions, in order to encourage MBTA employees, minimize labor unrest and to develop efficiencies in their respective work places.

In addition to this primary goal of implementing Chapter 581, the Labor Relations Section will continue to implement other policies designed to increase productivity. Uniform policies, regarding disciplinary action for absenteeism, preventable accidents and collectors' shortages have already been instituted and these efforts will continue. The section will also provide more complete training for Authority supervisors, in order that they become more familiar with the various collective bargaining agreements, the proper application of progressive discipline, the arbitration process, and most importantly, so that they will more fully understand the ramifications of Chapter 581.

The Labor Relations Section will continue to negotiate with the various labor organizations representing employees at the Authority and intends to enter into collective bargaining agreements, which balance the legitimate needs of employees, but are consistent with state law and existing budgetary constraints. Productivity committees will be established and union cooperation will be sought for the administration's effort to implement Chapter 581 in order to maximize service and reduce costs. The Labor Section will also take steps to limit its administrative workload by reducing the number of bargaining units at the Authority and consolidating collective bargaining agreements wherever possible.

For 1982, to date, the Labor Relations Section has also represented the Authority in some 12 arbitration cases and also in proceedings before the Massachusetts Labor Relations Commission and the Board of Conciliation and Arbitration. The number of arbitrations will undoubtedly increase, as a result of the implementation of the Managements Rights legislation.

In late 1981, this section also negotiated the first agreement between the Authority and the Starters and Inspectors Association, a group of first-line supervisors in the Transportation Department who had previously severed themselves from Local 589, the Carmen's Union. This three-year agreement should ensure that Starters and Inspectors will assume more responsibility and undertake a greater managerial role.

Employment, Workmen's Compensation and Medical Services Section

The Employment, Workmen's Compensation and Medical Services Section of the Personnel Directorate is responsible for several essential personnel functions. The Employment Unit administers all pre-employment selection procedures, which include testing, screening of applicants and conducting pre-employment physicals at the Authority's clinic. The clinic also conducts the required physical examinations in cases of employee industrial accidents.

In October 1981, the Section's offices and clinic at 45 High Street, were destroyed by fire and had to be relocated in temporary quarters in Charlestown. During this period the services of outside physicians had to be utilized to a greater degree than normally necessary. The reconstruction of the clinic and offices is underway and is expected to be complete by early 1983.

The Workmen's Compensation Unit is responsible for the administration of the Authority's self-insured program and the investigation and verification of all reported cases of industrial accident. Verified claims are authorized for payment. Cases which involve a dispute over the severity of an employee's reported accident, entitlement to Workmen's Compensation benefits or the amount of the payment are argued before the Industrial Accident Board whose ruling is binding on both parties. To expedite the return to work of injured employees, assignments to less physically demanding positions are made whenever possible.

The Workmen's Compensation and Medical Services Section has maintained its level of service despite the rising medical costs and weekly benefit payments which are beyond the Authority's control. A standardized system of reporting claims has been instituted and, a recently installed MIS system should increase productivity associated with data entry and retrieval related to claims and associated medical costs. This will allow for greater control, accuracy, and expeditious handling of billings, thereby providing more time for the investigation and settlement aspects of the operation. It should also allow more time for the preparation of cases to be contested before the Industrial Accident Division.

The Authority's clinic is expected to reopen early in 1983 and this will enable the Workmen's Compensation and Medical Service Section to continue its efforts towards tighter control over the investigation and documentation of claims. More detailed monitoring of industrial accident claims and medical examinations will be instituted to combat rising costs and the increase in lost man-hours.

Employee Services Section

The Employee Services Section provides assistance to employees, whose work performance is adversely affected by alcohol, drug abuse, and other behavioral problems.

Since January 1, 1982, the Section has provided counseling for clients during 2,638 hospital visits and investigations, hospitalized 87 clients and started work with 51 new clients. Forty-four clients are currently involved in various phases of therapy and seven were referred to outside agencies for assistance. Employees being assisted by the section made 1987 visits to the unit and 1,392 attended either Monday or Thursday noontime rap sessions or meetings and film showings.

Equal Employment Opportunity/Affirmative Action

The MBTA's Affirmative Action Plan was written and adopted in 1977, in accordance with then Federal and State regulations. As early as 1978, the MBTA recognized and informed UMTA of the need to redefine its priorities and adjust its goals accordingly. The Authority realized that the plan, based on departmental goals, inadvertently failed to anticipate the problems, incurred by departments, from the variables introduced to the promotion and transfer process from some 29 union contracts.

The major segments of the EEO/AA program are:

- o Affirmative action in employment, whereby the office monitors and analyzes the Authority's employment process so that affirmative action goals will be met;
- o Construction contract compliance, in which the office monitors affirmative action compliance on all Authority construction projects;
- o Minority Business Enterprise Program Implementation - the EEO/AA Office implements Federal directives to ensure minority business participation in Authority construction and procurement contracts;
- o Personnel Compliance - the EEO/AA Plan delegates to the EEO/AA Office responsibility for investigating all complaints against the Authority regarding employment issues covered by the Civil Rights Act of 1964; the Equal Pay Act of 1963; the Age Discrimination Act of 1967 and the Rehabilitation Act of 1973.

In February of 1980, UMTA performed a compliance review of the Authority's Equal Employment Opportunity (EEO) Program, the results of which were not available until August 1981, some 18 months later. In October of 1981, the MBTA responded to UMTA's findings and requested approval of the present EEO Program. In the certification process, UMTA recognized that the Authority had exceeded its overall goals for minority and female employment by 1.9% in 1980.

In March of 1982, UMTA recognized the MBTA's substantial achievements, when it announced that the MBTA became the third transit agency in the country to have its EEO plan approved by the federal government. The Authority is now able to write a new five-year plan, in accordance with the Uniform Guidelines for Employee Selection Procedures adopted by the Department of Transportation, newly acquired management rights and the 1980 census.

The MBTA's EEO achievements withstood a more significant test in 1981. The Authority was able to maintain the 11.8% minority male workforce it had at year-end 1980 and only lost .5% of its female workforce due to the budget constraints of Proposition 2 1/2. This accomplishment gains significance in light of the Authority's total workforce reduction of 773 employees or 11.5% and the actual nullification of Affirmative Action achievements in many state agencies.

In 1982 the Authority's EEO program benefited from the ability to adapt its course of action to address the changing needs of personnel administration. The MBTA exceeded its goals for minorities and females in entry level positions such as Operator, where they represent 910 or 27% of its employees. This ensures that sufficient minority candidates are available to pursue 36% of the supervisory positions, 40% of the clerical positions, and 22% of the skilled craft positions that require on-the-job experience and/or seniority to be qualified. This has resulted in minority and female representation in supervisory positions such as Starters, Inspectors, and Assistant Station Masters. The Authority's Police Department, which has attained an 18% minority level, also hired its first two female police officers in late 1981. Minorities and females were well represented in new hires for positions such as Junior Inspectors, where they are afforded the opportunity to seek positions such as Assistant Inspector and Inspector. As of October 30, 1982, minorities and females represented 22% of the MBTA's total workforce, an increase of 3.3% over year-end 1981. The increase of 3.3% is nearly double the average yearly increase since 1975, of 1.7%, exceeded only by a 4% increase in 1978 when 30% more new employees were hired.

The Authority's 22% minority employee figure represents a 24.5% minority participation in comparison to other state agencies that count minority females twice, as minorities and again as females. These employees represent a nucleus from which greater goals will emerge for the next five years. Initial approval has been received from UMTA for a \$200,000 grant for a Personnel Management Information System which will enable better utilization and tracking of employees. The Authority has reviewed all of its promotional tests in 1982 to ensure against adverse impact on minority employees. The EEO staff participates in the interview process for promotions, as well as new hires to ensure that the progress in the past is continued in the future.

The Authority's EEO/AA Office also has a Supportive Services Contract with Contractors Association of Boston (CAB). CAB's responsibility is to provide services in connection with the Authority's MBE Program to promote increased participation of M/WBE's and minority construction workers in the Authority's Southwest Corridor construction program, and provide supportive services to minority contractors, subcontractors, and minority construction workers.

ROLLING STOCK IMPROVEMENT PROGRAMS

CHAPTER VI

An integral part of the MBTA, and perhaps its most important support function is the maintenance of rolling stock. The quality of vehicle maintenance establishes the reliability of both the rail system and surface transportation; and thus the results are experienced daily by the riding public. This chapter provides a brief description of the Authority's maintenance efforts with special emphasis on the improvement programs that have been started to modernize or upgrade the fleet. It is important to note that the success of these programs is largely due to the close working relationship between the Authority's Materials Directorate and the Operations Directorate. For the proper maintenance of rolling stock, it is essential that these two departments coordinate all activities including contract specifications, public bidding, control of inventories and distribution of equipment. To describe the MBTA's progress in this area, there are three sections to this chapter, namely:

- o Rail Equipment and Facilities
- o Automotive Equipment and Facilities
- o Commuter Railroad Programs

RAIL EQUIPMENT MAINTENANCE

Overview/Mission

The Rail Equipment Department is responsible for providing daily a safe, clean and reliable fleet of approximately six hundred transit passenger vehicles daily to the Transportation Department. This fleet consists of rapid transit cars, light rail vehicles, trackless trolleys, PCC surface vehicles, and fifty-eight non-revenue vehicles. The maintenance of these vehicles is performed at thirteen (13) separate maintenance locations which includes two major overhaul/remanufacture facilities, part of our Everett Complex.

The following Table 6-1 outlines the present status of the Rail Equipment Maintenance Department's vehicles:

<u>Line</u>	<u>Vehicle</u>	<u>Fleet</u>	<u>Revenue Service Schedule</u>
Green	LRV	117	70
Green	PCC	74	46
Green	Trackless	35	20
Orange	#12	120	72
Blue	#4	70	44
Red	#1 S/S	72	64
Red	#5 C/D	88	48

Table 6-1

The task of maintaining the revenue service vehicle fleet, in order to meet daily scheduled requirements, is centered at specific carhouse locations. Each carhouse has been delegated the responsibility for maintaining, repairing, and cleaning vehicles each day sufficient to meet daily revenue service requirements. This is accomplished through the implementation of a scheduled preventive maintenance program for all revenue vehicles and through constant daily attention to minor repairs.

The Everett Repair Complex consists of two facilities: the Main Repair Shop and the Automotive Repair Shop. This complex serves as a central repair shop, repairing and refurbishing major components and assemblies which are beyond the capabilities of the carhouses or are more economical to repair at a central repair shop. The Automotive Repair Shop primarily repairs buses and major bus components, including engines, transmissions, fareboxes, etc. The Main Repair Shop also repairs some automotive assemblies and components from rapid transit, LRV, trackless trolleys, PCC and non-revenue vehicles.

In addition to the various carhouses which maintain the vehicles and the Everett facilities which repair components, the Rail Equipment Department consists of two other support areas, the Division Chief's Office and Engineering and Quality Assurance. The Division Office consists of three sections: Administrative, Finance, and Training. The Engineering section provides design, development, and testing expertise for all vehicles maintained by the Department and develops standard maintenance procedures, quality controls, and preventive maintenance programs.

The following is an explanation of the specific accomplishments of the Rail Equipment Department.

In the last eighteen months, this Department has:

1. Successful introduction of new revenue vehicles for service on the Orange and Blue Lines.
2. The Rehabilitation/Modification of a design deficient Boeing Light Rail Vehicle (LRV) fleet into a viable revenue vehicle for service on the Green Line.
3. Reversal of years of deferred maintenance on the Red Line revenue fleet through a comprehensive preventive maintenance program and complete turnaround on the No. 5 C/D Rebuild and Cab Signal Programs.

GREEN LINE

The Green Line Section is responsible for the streetcar vehicle maintenance (PCC Cars and LRV's) as well as Trackless Trolley vehicle maintenance at seven maintenance locations: Arborway, Lake Street, Mattapan, Reservoir (under reconstruction), Riverside, North Cambridge, and Watertown Carhouses. The Green Line runs from Lechmere Station in the north through the downtown district and breaks off into four branches towards the west, terminating at the Arborway, Boston College, Cleveland Circle, and Riverside Station in Newton, a total revenue service trackage of approximately

50 miles. The Green Line is also responsible for a high speed trolley line (5.5 total miles) between Ashmont Station and Mattapan. In addition, trackless trolley revenue service is provided from North Cambridge to Watertown and Belmont. In addition to managing the day-to-day operations, the Green Line controls two major capital programs: LRV Development, and the PCC Car Reconstruction Programs.

LRV PROGRAM

The Boeing Light Rail Vehicles (LRV's) were delivered in 1976 and from the outset exhibited extremely poor and unreliable performance in revenue service. Due to the high failure rate of the LRV, an excess of 40 vehicles were placed in temporary storage and later cannibalized to provide sufficient operating spare parts for the revenue service fleet. By January of 1979, over 300 separate modifications were engineered in an attempt to improve vehicle performance.

In November of 1979, the Authority reached a settlement with Boeing Vertol to conclude the 175 car LRV contract, finally leaving the Authority with 130 LRV's, modification kits, and a lump sum of money. Since the settlement, the Authority has embarked on a major in-house modification and rehabilitation effort to improve overall reliability on all LRV's. Major modifications have been identified and incorporated into the vehicles in the areas of the brake system, doors, air conditioning, etc. To illustrate a specific example, a fleet-wide replacement of coupler draft gear units has been initiated as a result of the serious design and operational flaws discovered. Recurring problems with the coupler system include:

- A high incidence of in-service mechanical uncouplings
- Inability to couple or uncouple as needed
- Extremely labor intensive maintenance requirements
- Unreliable electrical couplings resulting to propulsion system malfunctions and on-line failures.

As a direct result of these operation and safety problems, it was necessary to institute single-car operation to assure reliable levels of service to the riding public. A coupler replacement procurement program has been initiated to provide a fleet-wide changeout of the present equipment. New coupler assemblies are to be provided by the Ohio Brass Company and should be received by March 1983. To minimize the inconvenience to the riding public, the headways have been reduced by one-half, in other words, a street car comes by every four minutes instead of every eight minutes. Multi-unit operation will not be re-instituted until such time as the fleet changeout is completed to ensure adequate and reliable levels of service.

As a direct result of the rehabilitation effort, the active LRV revenue fleet has been expanded to 118 vehicles. We are now capable of running an 80 car daily schedule with availability exceeding the daily need. Future direction in the LRV program includes:

1. Possible procurement of nine (9) additional LRVs from Boeing Vertol.
2. Continued rehabilitation effort to a maximum of 126 vehicles.

As a result of the Boeing Vertol/MBTA contract settlement, funding was identified and set aside in a special interest-bearing account with which the MBTA would buy additional vehicles to complete the original 175 LRV order. As the Authority intends to rehabilitate a minimum of 120 LRV's, the procurement effort scope would involve the purchase of approximately 55 Green Line vehicles.

A consulting firm (L. T. Klauder & Associates) was formally engaged on August 24, 1982, for design engineering to assist the Authority in the specification preparation and bid evaluation for the subject procurement effort. The time frame for this procurement has been established.

- o Specification preparation is in progress and expected to be completed by May 1, 1983.
- o Projected date for advertising of procurement bid is mid-May, 1983.
- o Bid opening projected for mid-July, 1983.
- o Bid award projected for mid-August, 1983.
- o Delivery of first Type 7 cars in Boston (pilot cars) is projected for March, 1985.

PCC CAR RECONSTRUCTION PROGRAM

As a result of the overall strategy to improve Green Line performance, the Authority has embarked upon a rehabilitation program for PCC's. This will ultimately stabilize the fleet and add fifteen years to the useful life of the vehicles.

- A rebuild program for thirty-four (34) cars is in progress with status as follows:

Thirty (30) totally reconditioned and returned to revenue service.

Four (4) scheduled for completion by June 1983.

- Mini Overhaul Program of twenty-seven (27) vehicles:

Nineteen (19) completed and in revenue service.

Eight (8) more scheduled for finalization by December 1982.

ORANGE LINE

The Orange Line is a rapid transit line which currently operates between Oak Grove, Malden and Forest Hills, Jamaica Plain. Service is provided by a fleet of one hundred and twenty (120) new Type 12 Rapid Transit Cars that were received and put into service between 1980 and 1982. This Car Procurement Program is in the final completion stages with only warranty and modification work remaining. These new Orange Line vehicles have performed quite successfully in our revenue service with a very low rate of on-line failures and high level of reliability. All maintenance for Orange Line vehicles is performed at one main repair facility at Wellington Circle.

BLUE LINE

The Blue Line is a rapid transit line operating between Wonderland in Revere and Bowdoin Station in downtown Boston. Service is provided by a fleet of seventy (70) No. 4 type vehicles at the Authority's Orient Heights Carhouse. These vehicles were purchased by the Authority and placed into revenue service between 1979 and 1980. The warranty agreement between the Authority and the carbuilder expired in August, 1982; consequently the fleet is currently being maintained by MBTA supervisory and maintenance personnel. These vehicles have also performed very successfully in revenue service with a low rate of failures.

RED LINE

The Red Line is a rapid transit line which currently provides service to two separate areas; the South Shore area, operating between Braintree and Brattle Station in Cambridge, and the Dorchester area, operating between Ashmont and Brattle Station. Service to these areas is provided by two fleets: #5 Cambridge/Dorchester vehicles and #1 South Shore vehicles. These vehicles are maintained in two locations, namely, the Main Repair Facility at Cabot in South Boston and a satellite facility at Codman Yard. Personnel at these locations are responsible for implementing running and preventive maintenance programs, as well as cleaning the interior and exterior of both fleets.

In an effort to upgrade operation of the Red Line, we have begun several federally funded programs to modernize both fleets. These projects include installation of ATO Cab Signal on the #5 Cambridge/Dorchester fleet, the Reseating Project for the #1 South Shore fleet, the Red Line Modernization Project to overhaul and refurbish the #5 Cambridge Dorchester fleet. To date, all projects have been completed with the exception of the major overhaul program.

The Reseating Project increased the standing and seating capacity of the South Shore fleet so that an additional thirty (30) passengers could be accommodated per vehicle.

Due to the ATO Cab Signal Project, automatic train operation signal devices were installed on the Cambridge/Dorchester fleet.

The Red Line Modernization Project has improved the reliability and maintainability of the Cambridge/Dorchester fleet. This refurbishment project concentrated effort on the complete mechanical, electrical, interior and exterior overhaul of the fleet. To date, 34 of the 88 vehicles have been completed, with the majority of the vehicles being completed during the last two years.

In addition to these federal projects, a comprehensive preventive maintenance program was initiated over the past 1 1/2 years to address deferred maintenance on the Red Line. As a result of this program, the following was accomplished:

- The axle brushes were changed
- The roof dampers overhauled

- The D-4 compressors overhauled
- The brake operating units overhauled
- The complete drawbar draft gear and head and slide were overhauled.

Additionally, to minimize motor problems, this winter we began a program to overhaul 300 motor units. Completion is expected before the end of the year and will add to the reliability of the Red Line.

Future plans for the Red Line consist of two (2) main thrusts: complete overhaul of the remaining Cambridge/Dorchester fleet and procurement of additional vehicles. Alternative vehicle procurement approaches are being explored to investigate the most expedient method to obtain additional required vehicles. It is anticipated that as many as forty (40) additional vehicles may be required to meet the demands of increased ridership and increased revenue service schedules necessitated by the extension to Alewife in 1984.

EVERETT SHOPS COMPLEX

The Everett Shops Complex is located on a 12 1/2 acre site and houses the Rail Equipment Department Offices, the Main Repair Shop and the Automotive Equipment Repair Shop, as well as the central stores and Administrative Offices of the Materials Directorate. As previously stated, this facility has extensive production and remanufacturing capabilities. At present, this facility operates on a 5 day per week, 8 hours per day single shift production schedule.

A major reconstruction program is underway at the Everett Complex and will be discussed in Chapter VII. The Automotive Section area is expected to be refurbished by mid 1983. Repair of recent fire damages have delayed total design production capacity to the end of 1983. However, upon completion of this reconstruction work, the Automotive Section will be able to increase their production capability by 100%.

The daily operation of the Main Repair Shop consists of three facets: receiving components which require remanufacture or repair from the various field locations; repairing or remanufacturing of the components; and, the shipping of the repaired items to the location, as required. New systems have been put in place. For example, components are received in Everett through the component exchange area and are channeled to the appropriate work area. Once repaired, the components are again channeled to the component exchange area for shipment back to the original carhouse or garage location. Last year, the Main Repair Shop remanufactured in excess of 30,000 components. These components range from rebuilt transit vehicle motorized trucks, to sophisticated electronic and electrical components.

The Automotive Equipment Repair Section is concerned primarily with buses and major bus components and has several bays with hoists where heavy repair work is performed. Bus engines, transmissions, body work and bus structure, fare boxes, etc. are but a few of the items refurbished here. Last year, this section of the Everett Shops produced 155 engines, 443 transmissions, 222 buses and 17,000 miscellaneous components.

AUTOMOTIVE EQUIPMENT MAINTENANCE DEPARTMENT

Overview/Mission

The Automotive Equipment Maintenance Division is responsible for providing safe, reliable and clean buses to a series of central garage locations which meet the daily bus requirements of the Transportation Department. Maintenance, inspection and repair functions are performed on 1050 buses and 525 non-revenue vehicles; i.e. trucks, cars and related heavy maintenance equipment, such as snow fighting equipment. In 1983, this department will function from seven bus garages, two non-revenue vehicle garages and one tire repair facility.

The seven bus garages known as Albany, Bartlett, Cabot, Charlestown, Quincy, Lynn and Fellsway, provide the Transportation Department with 700 buses daily to meet schedule requirements. Frequently, extra service and special events increase this requirement to nearly 800 buses. To maintain this level of effort, several of these facilities operate seven days a week, twenty-four hours a day. The location of each of the newer facilities, namely Cabot and Charlestown, were carefully planned to allow them to serve a specific geographic area. Albany, Bartlett, Quincy and Cabot are located on the south side of the City and provide daily service to Boston and the South Shore communities. Albany is designated as the Authority's "Express" facility, and concentrates on the Massachusetts Turnpike routes serving the cities and towns west of Boston. Charlestown, Lynn and the Fellsway concentrate on the communities north and west of Boston.

The MBTA's bus fleet consists of buses manufactured by four different companies. These are Flxible, AM General, GMC and Flyer. The fleet ranges in age from 19 years to 6 months. The Automotive Equipment Maintenance Department tries to maintain equitable distribution of equipment by age and manufacturer, and thus, provide a balance in terms of which communities get new buses or buses with special equipment, etc. (See Table 6-2).

DISTRIBUTION OF BUS FLEET BY MANUFACTURER							
GARAGE MANUFACTURER	ALBANY	BARTLETT	FELLSWAY	CHARLESTOWN	QUINCY	LYNN	CABOT
FLXIBLE	49	52	12	93	27	62	124
AM GENERAL	17	44	12	23	21	9	34
GMC	35	34	34	78	20	23	50
FLYER	10	58	13	48	18	20	24
TOTAL BUSES ASSIGNED	111	188	71	242	86	114	232

Table 6-2

Purchase of New Buses

A goal of MBTA management is to reduce the average age of the existing bus fleet to 6.0 years. To do this, the Authority has embarked upon programmed bus replacement, wherein an effort is made every year to purchase 100 new buses, and thereby, retire the older units in the fleet. At the present time, the average age of the bus fleet is 7.7 years. It is planned that the Automotive Equipment Maintenance Division will continue this program in 1983, and, therefore, by mid-1985, attain our goal of a 6.0 age fleet.

This program was interrupted in the past. However, this past year we were able to reinstitute the effort and purchased 168 new Flexible buses. Moreover, another effort is underway to publicly bid and award a contract for 40 more buses before the end of 1982. This will further enhance the Authority's ability to provide safe and reliable bus service.

Prior to advertising for bids, a group within the Automotive Equipment Maintenance Division concentrates on bus specifications and the incorporation of the latest industry standards. For example, the Authority has added wheelchair lifts to 84 of the new Flexible buses. Also, some buses were purchased with 'kneeler' capability, which allowed the driver to lower the front step of the bus to accommodate elderly and handicapped patrons.

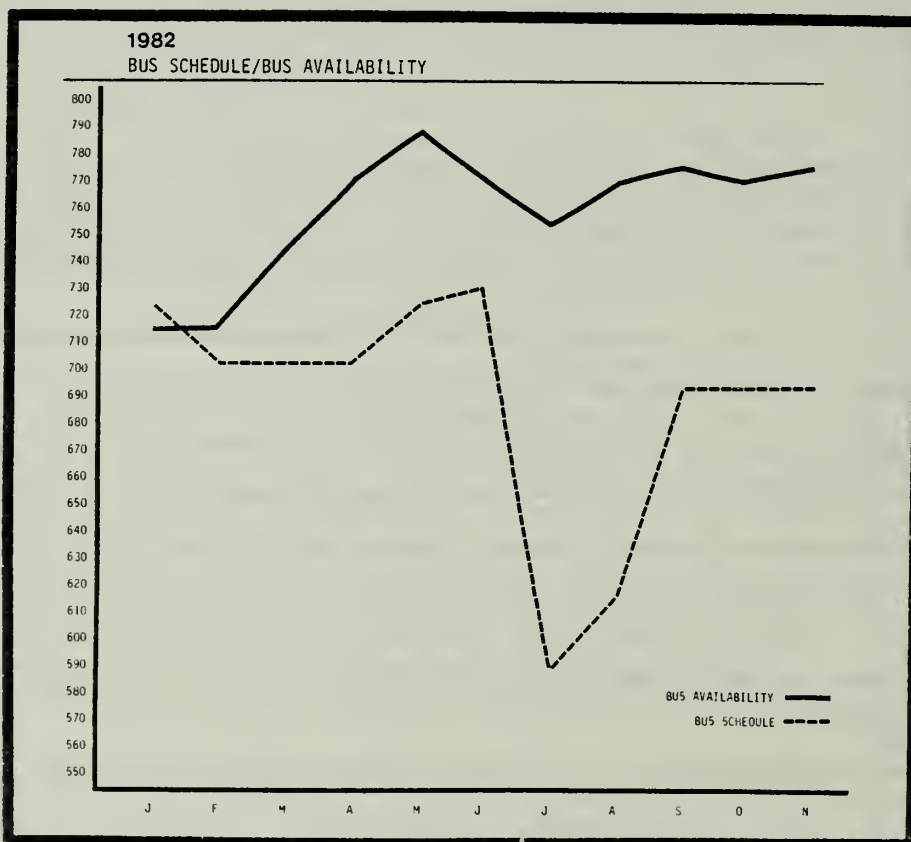


Table 6-3

Rehabilitation of Buses

In addition to the purchase of new buses, the Authority has begun to recognize the need to improve the reliability of its older bus fleet. The cost of a new bus has increased substantially in the last few years, and is approaching \$150,000 per bus.

Because of this condition, the MBTA has initiated, for the first time, a contract with a private firm to rehabilitate 70 buses. Specifications were assembled and publicly bid by the Materials Directorate for the total rehabilitation of 70 GMC buses. This will include the complete overhaul of the power train, the structure of the bus and the appearance of each. The low bidder was the firm of Coach Builders, Inc., of Springfield, MA., for an amount of \$3,134,833. This represents a cost per bus of \$44,790 and will provide the Authority with a renewed piece of equipment with a useful life of 8 to 10 years.

MBTA Materials Directorate staff have undertaken careful evaluation of this firm to assure its ability to perform successfully. Staff of the Automotive Equipment Maintenance Division visited their facilities to review management's capabilities and technical personnel. It was concluded that this company could successfully fulfill the scope and responsibility of the contract.

This rehabilitation effort is expected to begin in December of 1982, with the delivery of 18 buses to Springfield. Each bus will be on a production line for approximately 9 weeks, with completion for all 70 buses in approximately 6 months. If this program proves as successful as we now believe, the Authority will then have the opportunity to pursue similar contracts for fleet rehabilitation.

Systems and Procedures Innovations

The Automotive Equipment Maintenance Division has begun to implement systems and procedures to strengthen maintenance and repair activity. Each of the seven garage locations establish goals and objectives for themselves, whereby, each garage can be effectively monitored and progress assessed. Particular emphasis is placed on certain categories which, when neglected, interrupt service to the riding public. For example, this department is responsible for nearly 20,000 scheduled miles of service per month. To provide this level of service with minimal disruption, the Automotive Equipment Maintenance Department strives to achieve:

- o 100% Bus Availability for Service Schedules

This goal has been attained over the past eleven months.

- o Miles Between Breakdowns

This Department is striving to achieve a level of 3000 miles between breakdowns. Presently, we have increased our performance from a low of approximately 1500 miles to the present of approximately 2300 miles between breakdowns.

o Miles Between Transmission Rebuilds

We hope to exceed 100,000 miles between transmission rebuilds. Presently, we have increased MBTA performance from a low of 77,000 miles to 92,000 miles.

o Road Breakdowns

In the past, the Authority was experiencing an excessive number of breakdowns of buses in revenue service. Service had deteriorated to the point that nearly 1900 road calls were being made monthly. As a direct result of more rigorous inspection schedules implemented in 1982, road calls have been reduced to 1000 a month and further improvement is anticipated in the coming year.

o Interior and Exterior Cleaning of Buses

Programs have been developed this past year whereby every bus in the MBTA fleet will receive an exterior wash at least once a week. We have found it to be far more effective to subcontract washing services, both interior and exterior, and thereby improve our performance. The entire issue of subcontracting is discussed in more detail in Chapter 5 of this report within the area of New Management Rights Implementation.

o Establishment of a Management Information System

The MBTA recognizes the need for, and importance of, current management information which is essential to improve the efficiency and responsiveness of the decision making process. In this regard, we have awarded a contract for the development of a MIS System for the Automotive Maintenance Department and are presently formulating parameters for the future implementation of this system. A pilot program will be installed at Charlestown Bus Garage in the first quarter of 1983. This system will capture material and labor costs and will generate management reports.

The setting of goals and objectives has become a working tool for each supervisor and for each garage location. Data is refined and broken down by garage, enabling each location to measure their performance, in relation to more specific goals established by location during the budget process.

Preventive Maintenance

An integral part of the Automotive Equipment Maintenance operations entails preventive maintenance. Preventive maintenance is the backbone of any programmed bus maintenance, and ensures safe, reliable equipment for revenue service and thus increases bus availability for scheduled pullouts. Key to this program is the element of inspection. This department has expanded the categories of inspection and specifically defined their purpose. For example, on the basis of a 26,000 mile annual average for a bus, the following inspection schedule will be repeated roughly 2.2 times per year.

<u>Mileage</u>	<u>Inspection Category</u>
2,000	Safety
4,000	General
6,000	Safety
8,000	General
10,000	Safety
12,000	Major

A safety inspection is essentially a visual examination of the key operating elements of a bus and includes brake adjustments, tire pressure checks, checks for leaks of any kind, draining of air tanks, battery checks, tests for proper operations of all lights and lost or broken interior parts of the bus.

A general inspection, in addition to performing the safety check, will change oil and filters in accordance with warranty requirements, lubricate various fittings, check engine, chassis and body, and make the necessary repairs.

A major inspection is conducted at the 12,000-mile mark, wherein each bus will undergo a comprehensive inspection and repair of all key components, parts and systems requiring attention.

Training and Manpower

The Automotive Equipment Maintenance Division has begun programs to maximize manpower utilization. For example, a new concept has been implemented which is designed to "free up" mechanics presently performing duties that might otherwise be performed by less specialized individuals. This new classification of Machinist Repairman Third Class was established to fuel and service buses. This classification is paid approximately half the wage rate of first and second class mechanics. This action represents not only a cost savings to the MBTA, but a substantial increase in production by a more effective utilization of skilled manpower.

Training and testing programs have also been initiated in the last six months to keep the skilled work force of this department updated on the latest innovations and repair techniques being employed within the industry. Training sessions have become a regular part of the maintenance program.

Bus Speed Line

In an effort to improve the cosmetic appearance of the existing bus fleet and to address the outstanding backlog of sheet metal/body damage, a "Bus Speed Line" Program has been instituted to improve the cosmetic appearance of the bus fleet. The Authority is in the process of hiring fifteen (15) Sheet Metal Workers and two (2) Painters for a period of approximately three years which is designed to process 703 buses through the Everett Facility.

The average time required to repair each bus will vary from 1 to 6 days. In this brief timeframe, repair efforts would be focused exclusively on superficial repair work below the rub rail of the bus where the vast majority of cosmetic damage exists.

COMMUTER RAIL PROGRAM

At the heart of the Authority's Commuter Rail System is the issue of rolling stock availability. It has become particularly important this past year because of the 9.3% increase in commuter railroad ridership.

To address this new market of riders, the MBTA has begun an aggressive Commuter Rail Rolling Stock Improvements Program. This program has been developed in Phases and concentrated on revenue equipment. The following is a brief description.

Phase I

o (18) Eighteen New F-40 Locomotives

This equipment, which was built by the General Motors Corporation, was placed in service on both the MBTA Commuter Lines throughout the region. These locomotives have enabled the MBTA to reduce its dependence on costly self-propelled Rail Diesel Cars (RDCs), in lieu of a more efficient locomotive push-pull operation. Purchase of the new locomotives also brought about additional operational savings, through the termination of a previous leasing agreement for 15 locomotives.

o (19) Nineteen Rebuilt F-10 Locomotives

In an effort to maximize available funding, the Authority embarked upon a lower cost rebuild program of older quality locomotives. All nineteen locomotives have been completed and are in operations today, performing well.

o Sixty (60) New Passenger Coaches

The purchase of 60 passenger coaches manufactured by the Pullman Company, provided not only new equipment to replace pre-WW II steam heated cars, but also additional seating capacity. For example, the older cars had a seating capacity of 78, while the new coaches seat 99 people.

o Rail Diesel Car Rebuild Program

With funds available from state bonds issued specifically to upgrade the MBTA's Commuter Rail system, \$12,041,054, was expended on thirty-two RDC coaches

for rehabilitation and conversion from self-propelled cars to push-pull coaches. These coaches were rebuilt by the Morrison-Knudson Company of Boise, Idaho, at only 40 percent of the cost of a new coach. Also, these rebuilt RDCs have the same service life as a new coach, and equal comfort and reliability.

Phase II

- o Specifications have been prepared to rebuild an additional 63 RDCs. Since the original 32 cars were completed with State Bonds, the Authority has secured from UMTA a "Letter of No Prejudice". This action will enable the MBTA to rebuild the 63 additional cars with UMTA funding and utilize the State funds already committed as the local share for the entire 95 car project.

Depending upon availability of Federal funds, this project could be completed by 1984. To complement the new and rehabilitated Commuter Rail rolling stock, the Authority has completed the construction of layover facilities at the Ipswich, Franklin and Rockport locations. Also to be completed at the end of the remaining railroad lines and branches, will be additional layover facilities. By building these facilities, train sets (locomotives and coaches) will be able to remain overnight at the designated locations and not require the expensive and time-consuming trip back to Boston for overnight storage. Another savings on both costs and the environment, as a result of the layover facilities, is derived from the ability to shut down locomotives at night during the winter months. Previously, the locomotives were run all night to negate the cold weather effects on the equipment. The new layover facilities provide a central and more efficient source of heat.

Maintenance Facilities

Prior to 1979, vehicle maintenance functions were performed in the Boston Engine Terminal (Somerville) and Billerica shops. Both facilities were shared with the Boston and Maine, where that organization maintains their freight rolling stock. Now all freight-related activities have been eliminated from BET, which is now dedicated to commuter rail vehicle maintenance only.

A total shift of all commuter rail vehicle maintenance to BET will be completed during 1983, allowing for greater efficiency through a centralized facility in one North Side location. Construction of a two-track flow through service and inspection shop addition to BET has been begun using state funding. This effort is scheduled for completion in 1983.

Similarly, a two-track Service and Inspection Facility for the South Side, in the vicinity of South Station, is being engineered with construction planned in 1984.

Once completed, the new South Side Maintenance Facility will eliminate a substantial number of cross city maintenance trips to BET and will greatly improve the quality and cost of servicing the rolling stock on the South Side.

In addition to those previously discussed improvements, future maintenance requirements call for a major modernization program at BET.

Significant improvements have been made in the quality of Commuter Rail rolling stock. Both the Commonwealth and the Federal Government have contributed to these efforts and the results, as shown in decreased operational costs and increased ridership, have been noteworthy. In order to continue this progress, additional equipment and facilities will be required. The rising demand for service is indicative of the potential for a modernized Commuter Rail system and that demand can only be met with a continuation and acceleration of the rolling stock upgrade that is now underway.

CONSTRUCTION - EXPANSION AND MODERNIZATION PROGRAMS

CHAPTER VII

The MBTA's capital improvement program has accelerated its expansion and modernization programs to include all facets of the transit system. Work efforts have encompassed multi-million dollar rapid transit extensions, as well as state-of-the art improvements to power systems, maintenance facilities, and signal and communications networks.

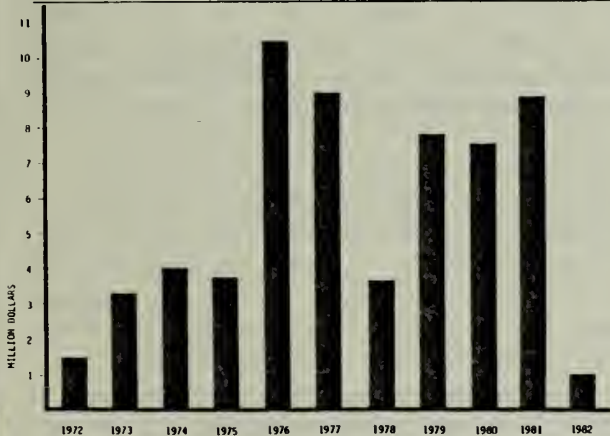
It is the intent of this chapter of the management report to present a concise, yet comprehensive, overview of the projects which constitute the Authority's expansion and modernization program.

The MBTA's expansion program has been successful in putting \$2 billion of construction out to bid, making it one of the largest transit programs in the nation.

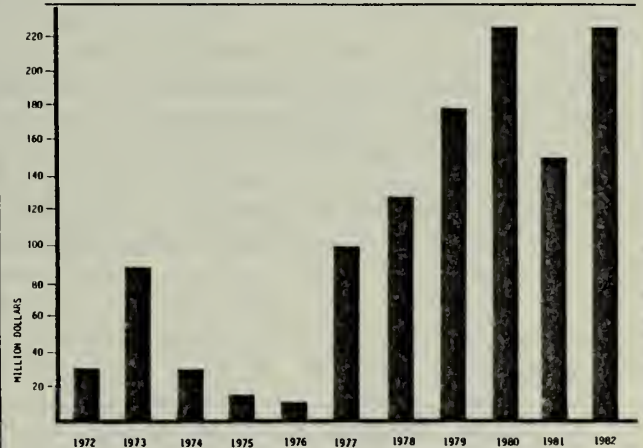
Due to the magnitude and extensive scope of service related to facilitating an expansion and modernization program of this scale, the Authority has consistently awarded more and more professional services and construction contracts in the past decade. The figures represented below are in direct correlation to the growth of the MBTA's construction programs.

CONTRACT AWARDS 1972 - 1982

PROFESSIONAL SERVICE CONTRACTS AWARDED 1972 - 1982



CONSTRUCTION CONTRACTS AWARDED 1972 - 1982



Totals do not include R.R. Force Account Agreements, Interagency Agreements, Change Orders or Supplemental Agreements.

Included is the 3.2 mile Red Line Northwest Extension, originating in Harvard Square and reaching its terminus at Alewife Brook Parkway. To the south of Boston is the new Quincy Adams Station and 2,000-car parking facility on the Braintree Branch of the Red Line. This effort is the final link in the South Shore Extension Project. The third project of the Authority's Expansion Program is the redevelopment of the Southwest Corridor which is the largest single construction project in the history of Boston.

The MBTA is particularly proud of its Modernization Program which is responsible for tunnel rehabilitation and track improvements, systemwide signal and communication upgrade, plant improvements and selected station modernization.

One of the major modernization efforts has been the rehabilitation of maintenance facilities at Everett, Charlestown, and Reservoir, with respective age being 60 years, 50 years, and 90 years old. These structures have conceded to time and have fallen into disrepair. Through this multi-million dollar program, these sites will be rehabilitated to modern standards, which will help decrease operating costs and afford workers space to improve efficiency.

The following section highlights the significant elements of all the above-stated work programs and provides a measure of detail necessary to comprehend the Authority's vast expansion and modernization program.

EXPANSION PROGRAM

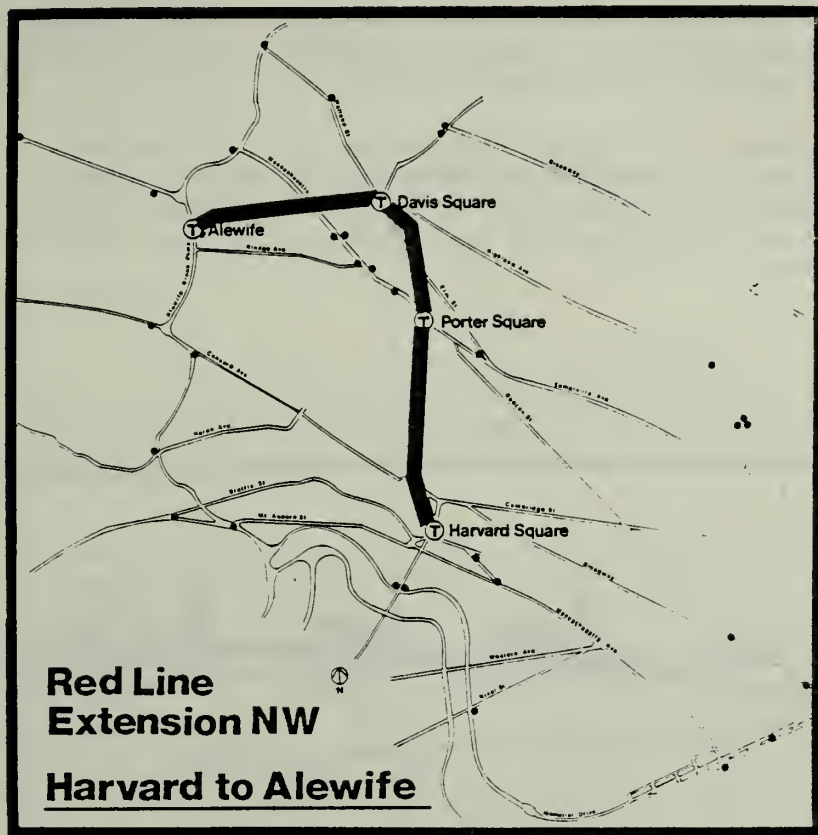
Red Line Northwest

The MBTA's \$574 million Red Line Extension Northwest is one of the Authority's major expansion efforts currently underway. The 3 1/2 mile extension is on schedule and within budget. About 70% of the heavy civil work is complete and the project-wide contracts for track, power, signals and communications are underway. The project includes four underground transit stations, 3.5 miles of twin tunnels and a 2,000-car garage at Alewife Brook Station.

The extension begins at Harvard Square where Harvard Station is 65% complete. All of the tunneling between Porter-Harvard, and Porter to Davis, is 100% constructed. The remaining stations: Porter Square, Davis Square, and Alewife are more than 50% completed; and, it is anticipated that the entire project will be ready for operation by the end of 1984.

The project is unique in that much of the construction took place in the congested historical, academic, business and residential complex which is Cambridge and Somerville neighborhoods. An extensive program of community information and participation was pursued from the inception of this project. Information brochures, a regular "Red Line News" and periodic public meetings with station model displays, were all tools to educate the citizens about this massive project.

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To assure a smooth operation of the extension, the Authority, in close coordination with the MDPW, has taken the initiative to advance development of proposed improvements to Route 2, including direct access to Alewife Station. In order for this facility and its garage to function at its full potential, the need exists for the MDPW to construct direct access ramps from the Concord Turnpike to the station. MDPW is presently initiating the environmental process for this phase of the project.

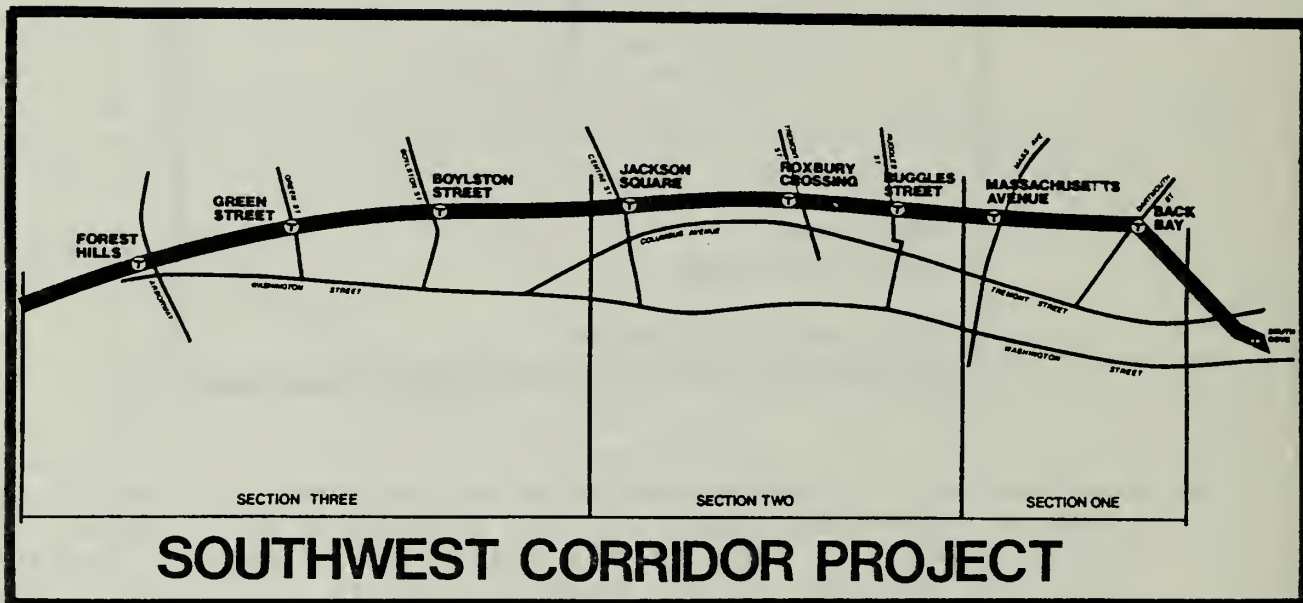
It should be noted that presently the Authority is re-evaluating its budget for this project and the end result appears to be favorable. Not only is the Red Line Extension being constructed on schedule, but current estimates indicate that the total project cost will be approximately \$574 million, as opposed to the previously estimated figure of \$620 million.

Southwest Corridor

The MBTA's \$792 million Southwest Corridor Project is the single largest construction project in the history of Boston.

Under the new plan, the Orange Line, now operating on an antiquated elevated structure, will be relocated to a below-grade right-of-way. Nine new stations will be served by the relocated line. Amtrak's high-speed Northeast Corridor service, along with three MBTA commuter lines, will be relocated to a below-grade right-of-way directly adjacent to the Orange Line tracks. Three new railroad stations, including a new facility at Back Bay, are being provided.

The proposed below-grade right-of-way for the Corridor is located along the historic railroad right-of-way termed the "Shoreline", essentially following the alignment of the old railroad embankment. The alignment has been straightened in some locations to permit higher speed railroad operations.



Segments of the line, in densely populated areas, are to be covered with decking to provide additional space for parkland and playground facilities and to strengthen the visual connection between areas on opposite sides of the right of way.

Since the inception of this massive expansion program, the Authority has secured \$543 million in Federal and local funds for the Southwest Corridor Project. The MBTA initiated construction in 1980 with the award of site preparation and demolition contracts.

In 1981, funding limitations resulted in pressure to reduce the budget; however, the Authority effectively addressed the situation and through careful examination of priorities, the project has been able to proceed on schedule.

Of the \$792 million project-budget, 60% of the required funds have been approved and 41% of them committed. Current cost estimates suggest that all design objectives and project commitments can be met with the total funds presently budgeted.

It should be noted that to date design is 75% complete and overall construction is 19% complete. The project is scheduled for completion by the end of 1986.

Quincy Adams Station

The MBTA's Quincy Adams Station on the Braintree Branch of the Red Line is the final link in the South Shore Extension Project. Funding for this effort was originally approved by UMTA in July of 1976. Present estimates indicate that the total project cost is approximately \$33.2 million.

This station and 2,000-car parking garage is now scheduled to be completed by the end of 1982 and ready for beneficial occupancy. Included in the construction are complete facilities for local bus operation, transit drop-off passengers and a future railroad connection on the former Old Colony Railroad Line for Commuter Rail service to the south.

Presently, the major obstacle facing the opening of this transit facility is that the MDPW's ramp complex off Route 3 which is designed to service the garage from Routes 3 and 128 (93) will only be minimally ready, with the full ramp system not available until early 1984. A further setback has been that the Burgin Parkway in Quincy, which was slated to be built by MDPW to link up Center Street and provide the City of Quincy with access, is now a fire road in response to the City's concerns and it is not scheduled to provide the anticipated access.

In order to reduce the time disparity involved with the opening of the station, efforts are presently underway which will expedite the design and building contracts that will contribute to getting the aforementioned ramp network built.

However, a short-term access solution must be developed in concert with MDPW and the City of Quincy, in order to minimize impacts on the adjacent neighborhoods. Failure to develop an interim solution may create a situation which will prohibit the use of the station until the connector ramps are complete.

MODERNIZATION PROGRAMS

The Power Program

The Power Improvements Program was initiated in 1974 with the receipt of two Federal UMTA grants entitled "The Power System Improvements Program" and "The Immediate Needs Project."

The Power System Improvements Program is a comprehensive program to upgrade the Authority's traction power generation and distribution system. The proposed goals were the replacement of old 25Hz rectifying equipment with new 60 Hz equipment in 17 substations, rehabilitation or reconstruction of substation buildings, provisions for switching stations installations including AC and DC cable and conduits for future purchase power capability. To date, The Power System Improvements Program, with UMTA assistance, has an approved project budget of \$86.6 million dollars and is approximately 60 percent complete. During the past two years the Authority has filed UMTA grant applications which have expanded the Scope of Work for this program. The Authority is proceeding with the design and construction of a 115Kv transformation facility and installation of a second gas turbine which will reduce costs, improve reliability and provide emergency power access to its power distribution system.

The Immediate Needs Project, with UMTA assistance, has an approved project budget of \$22.4 million dollars which had enabled the Authority to continue operating the Authority's power generator facility in South Boston. Also included was the installation of a new gas turbine generator which provides long-term backup capability in the event of utility failure, and the inability to purchase power.

In 1977, the Authority received another Power Program grant entitled, "The Power Cable Replacement Program". This project has been approved for a total project cost of \$14.4 million dollars to replace the old failure prone AC and DC power cables systemwide. This program is continuing and is approximately 60 percent complete.

The Power Program is an essential work element which will require additional funding. The estimated project cost to complete this program is approximately 70 million dollars. It is anticipated that it will take 10 years to replace and upgrade the Authority's cable conduits and power distribution facilities.

Tunnel Rehabilitation and Track Improvements

The Tunnel Rehabilitation Program began with the filing of an UMTA grant application in 1979. The intent of this program is to repair the tunnel deterioration which has occurred throughout the MBTA system while at the same time install necessary ventilation equipment for the protection of passengers in the event of a fire. To date, this program has received \$15.3 million in Federal funds which has allowed the Authority to rehabilitate the tunnel from Fields Corner to Ashmont, initiate necessary work in the Government Center area, and soon begin tunnel rehabilitation in the Kenmore Station section. Funds are also approved for the construction of ventilation shafts at Gillette Park and Maverick Stations. It is anticipated that 25 million dollars will be needed over the next three years to construct new ventilation shafts in the Green Line Central Subway from Haymarket to Park and from Park to the portals on the Arborway, Boston College, Commonwealth Avenue, and Riverside lines. In addition, a systemwide Ventilation Program is estimated to cost approximately 75 million dollars. The design for both the Tunnel

Rehabilitation and Ventilation Program is continuing and the actual construction and completion date will be dependent upon the availability of federal funds.

The Track Improvements Program began in 1977 and consists of a multi-year track rehabilitation program in which all deteriorated and substandard track on the Green Line and the three Rapid Transit Lines will be renewed or replaced. To date, this program has been approved for a total project cost of \$49.9 million. Of this amount, \$18.3 million was received from UMTA in 1981 and 1982, and was used to rehabilitate the Dorchester Branch of the Red Line, while also procuring materials for the Blue Line reconstruction scheduled for 1983. With approved grant funds, the Authority has also contracted for the production of two track maintenance vehicles. The Track Improvements Program is approximately 40 percent complete and additional funds will be needed to undertake major track improvements to the Blue Line; the Red Line Central Subway; (Andrew to Harvard); and the Green Line Central Subway. It is anticipated that this work will take approximately ten additional years, and is estimated to cost approximately \$80 million.

Commuter Rail Improvements Program (CRIP)

All of the capital efforts of the MBTA that are directed toward its extensive commuter rail system are carried under the name "Commuter Rail Improvements Program". The work elements performed, as a result of this program, range from emergency reconstruction projects to the beginning of a systematic capital replacement program.

The CRIP I Program was approved by UMTA on July 7, 1975 for a total project cost of \$13,600,000. This portion of the program concentrated primarily on the rehabilitation of the Franklin Branch railroad and the acquisition of much of the fleet from the bankrupt Penn Central Railroad.

The CRIP II Program was approved on October 6, 1976 for a total project cost of \$57,800,000. The components of this program included the acquisition of some of the Boston & Maine Railroad, the purchase of much of the existing fleet of rolling stock of the Boston & Maine, the purchase of 13 new locomotives and the rebuilding of 17 existing locomotives, the purchase of 18 passenger coaches and the first stages of upgrading the former B&M lines on the north side of Boston.

CRIP III was originally approved on October 16, 1978 for a total project cost of \$25,300,000. CRIP III continued the work initiated in CRIP II on the former B & M lines into North Station. Track, bridge and signal conditions were the most severely deteriorated on these lines. The upgrade under CRIP III is also coordinated with the conversion of rail diesel cars (BUDD cars) to locomotive-hauled coaches.

UMTA approved the original CRIP IV grant on August 28, 1981 in the amount of \$8,400,000. This approval included funds to purchase long-lead track materials for the Franklin Branch and Eastern Line track improvement projects. Also included are funds to perform necessary design work for the South Side Maintenance Facility, Drawbridge #7, spanning the Mystic River, and Phase II of the Track Improvements

Program. Additional funds will be required to bring all these work elements through construction.

In the future, as in the past, the Commuter Rail Improvement Program will continue to establish priorities based on need and follow through on a prescribed course of action. An emphasis should be placed on the railroad bridge rehabilitation program, as well as continuing track upgrade. Expediting the reconstruction/rehabilitation of bridge structures as needed will assure that the Authority is adequately addressing the problems that years of neglect by B&M and Penn Central have precipitated.

Support in obtaining future funding for a bridge replacement program will be an ongoing pursuit in the upcoming years.

Systemwide Signal/Communication Improvements

This project was approved by UMTA in 1979 and the total approved project cost to date is \$14,100,000. The project consists of the renewal or replacement of deteriorated or substandard signal equipment on the Red, Blue, and Green Lines; the installation of communication cable on the Blue and Green Lines; the installation of an emergency telephone system on the Red, Blue, and Green Lines; the completion of an MBTA/Police radio system in the Authority's transit tunnels, and the installation of a computer-aided bus radio system.

Funding for this effort should be scheduled over a number of years. To date, the Authority has converted the signal system from Columbia to Ashmont (Red Line) from wayside to automatic signal; and, will shortly advertise the signal work from Columbia to Harvard (Red Line); and, has initiated the procurement and conversion of the Red Line radio system from VHF to UHF. In addition, a Police Radio System for communications in the MBTA tunnels will be advertised in early 1983.

The Authority has made great strides during the past two years with this program. To continue this program, further funding estimated in the range of 75 to 80 million dollars will be required for the following project elements:

Green Line Signals	\$27-35 million
Blue Line Signals	\$21-25 million
Communications	\$8-10 million
Bus Radio	\$8-10 million

As stated earlier, this program will require substantial Authority support and incremental funding during the next 5 years to successfully complete the full conversion of the Authority's Systemwide Signal and Communication Improvements Project.

Maintenance and Repair Facilities

The Authority through capital grant funds has undertaken major improvements to a number of its maintenance and repair facilities throughout the system. A few of these projects are nearing completion while others are about to begin. Identified herein is an update of the status of individual facilities completed, ongoing, and planned for capital improvements.

Charlestown

The Charlestown Plant Maintenance Project was initiated in 1975 with the filing and receipt of an UMTA capital grant. The total approved project budget is \$37,100,000. The project's main goals were to reorganize and refurbish the facilities at the Charlestown Yard, including the construction of a new bus garage and the replacement or rehabilitation of antiquated facilities used for non-revenue vehicle maintenance and various plant maintenance activities. This project is substantially complete with the Authority now realizing the benefits of a new bus storage and maintenance garage; a non-revenue vehicle storage and repair facility; a rail bending shop; and a new light maintenance shop. Future work will include the construction of a heavy maintenance shop and site improvements to the Charlestown Yard.

It is anticipated that the Charlestown project will be completed by June 1984 and that no additional funds will be required.

Everett

The Everett Maintenance Improvements Project began in 1978, with the receipt of Federal funds for design. To date, the total approved project budget is \$29,700,000. The main objectives of this improvements project is to renovate the Authority's main repair facility which has received little or no improvements for over 50 years. To date, the Authority has completed a new material warehouse facility, installed a new heating plant, and has made extensive improvements to the Everett site area. Work is underway on the renovations to the bus overhaul shop construction of the main repair shop and demolition of the old heating/power plant.

During the past two years, the project has received approximately \$13,300,000 in Federal funds; it does not appear that additional funds will be required for this project. The anticipated completion date for the Everett Maintenance Improvement Project is 1984.

Reservoir Reconstruction Complex

Efforts are underway toward a major reconstruction of the Reservoir Carhouse and Yard Complex. This project is being funded from the Green Line System Improvements Project, which has received \$60 million since its inception in 1972. During the past two years, \$11 million has been received for the reconstruction of the Reservoir Carhouse and Yards. Phase I, which is a new Reservoir Station, and realignment of track in the upper yard is substantially complete.

Phase II is now underway and includes the construction of a new carhouse repair facility, new layout of lower yard track; rehabilitation of operators' lobby; and, a new signal system for the Reservoir Yards. This project is estimated to be completed in December of 1984.

Bartlett Street Garage

Work has begun on a project to substantially rehabilitate the Bartlett Street Garage. This project, estimated to cost \$5 million, has been funded through a technical amendment to the Plant Improvements - Phase IV grant. Included in the work effort are interior renovations to the operators' and starters' lobby; new bus hoists, equipment and renovations for the bus repair areas; a new heating system and electrical improvements, a new roof, doors, and extensive site improvements. To date, this project is 70 percent complete with completion scheduled for April of 1983. The Bartlett Street Garage will thus be a bus maintenance facility capable of maintaining approximately 200 buses serving the Authority's Southwest bus area.

With Federal funds received from the 1982 grant program, the MBTA will undertake improvements to the following facilities:

Cabot Bus Garage: Approximately \$500,000 has been approved for a new bus washer and site improvements. This project is presently in final design and construction is scheduled for May 1983.

Lynn Bus Garage: \$1.6 million has been approved for site work, a new roof, reconstruction of shop equipment, and new electrical and mechanical systems. Final design is nearing completion with construction scheduled for June 1983.

Quincy Bus Garage: \$2.5 million has been approved for site work, garage renovations, and a new operators' lobby. The final design is underway with construction scheduled for July 1983.

Albany Street Garage: \$1.2 million has been approved for site work and renovations to the Albany Street Garage. The final design is underway with construction scheduled for July 1983.

South Boston: Approximately \$230,000 has been approved for site work and a new building structure for a new bus waiting and dispatching facility in South Boston. The new bus turnaround and lobby is to be located at the existing MBTA South Boston Power Station and would thus replace the present South Boston Bus Dispatching Facility at East Second and P Street. Final design is complete and construction is scheduled to begin January 1983.

Station Modernization

The MBTA's Station Modernization Program Phase III received its first funding in March of 1978. The original scope of work required the design and engineering of nine Red Line rapid transit stations. Following the approval of these work elements, an additional request was approved by

UMTA to include the Suffolk Downs Blue Line Station and for an Urban Initiatives grant to modernize the Kendall Square rapid transit station.

It was intended for this grant to initiate a major station modernization and/or platform lengthening effort to accommodate six-car trains. Additional elements of the program included the installation of new escalators, elevators for the handicapped, new signage and lighting and the total renovation of station interiors, and, in some cases, exteriors. Red Line Stations, benefiting from the program, are: Ashmont, Central, Washington, Fields Corner, Broadway, Andrew, Kendall, and Park Street. During the past four years, approximately \$24 million has been requested by the Authority for this effort and approved by UMTA.

The MBTA has a continuing interest in this project due to the benefits and cost-effective savings that can be realized as a result of a successful modernization program. As a result of the implementation of the new Management Rights, discussed in Chapter V of this Report, the addition of the six-car trains will improve service without necessitating additional staff.

Furthermore, the Authority was able to produce a separate funding source for Kendall Square Station through the efforts of an Urban Initiatives Grant, in cooperation with the Cambridge Redevelopment Authority and the U. S. Department of Housing and Urban Development. The Kendall Square Station is now an integral component of the CRA's "Cambridge Center" Urban Development Project.

Presently, a great deal of design and construction has been completed. Ashmont Station, the first product of this program, is almost 100% complete. Construction is already well underway on Savin Hill, Fields Corner, and Suffolk Downs Stations, with construction commencing shortly on Charles Station. Contract documents have been completed for Washington and Park Street Stations, with construction deferred pending availability of adequate funding. Kendall Square Station is in the design/development stage and Central Square Station will be initiating this phase during the first quarter of 1983.

This program of modernization is vital to the Authority if its "Red Line" is ever to reap the full benefits of an expanded transit network. The lengthened platforms and six-car trains will greatly improve this transportation system.

Plant Improvements

The Plant Improvements Program was initiated in 1973, with Phase I. Since that time, it has proceeded to Phases II, III, and IV. Essentially, this project is a means of implementing the numerous small-scale improvements which are needed, along with the major capital projects, to bring an effective transit property primarily established at the turn of the century toward a modern, efficient condition. Plant I, II, and III are essentially completed while Plant IV is underway and should be completed in 1984.

Plant Improvements - Phases I, II and III have been approved for a total project cost of \$36.9 million. These projects are approximately 80% complete, and finalization is scheduled for December, 1983. To date, through Phases I, II and III, the Authority has modernized six elevated stations on the Orange Line; undertaken construction and renovations to buildings and structures throughout the system; and purchased necessary vehicles, equipment and plant machinery.

Phase IV, which is the most recent and largest of all the Plant Improvement Projects, was originally approved for Federal funds in September, 1979 and to date, this Phase has been approved for a total project cost of \$29.2 million. This Phase has also allowed the Authority to rehabilitate and renovate its facilities; provide equipment for its maintenance and office facilities; as well as plan and construct small systemwide improvements projects. Through Phase IV, major improvements have been completed to the Authority's Bartlett Street Bus Garage and work will be underway shortly at both the Lynn and Cabot Bus Facilities. Funds for the improvements to the Lynn and Cabot Bus Garages were received from UMTA in 1982. Also, \$3.6 million of Federal UMTA funds were received, in 1982, under Section 5, Bus Capital, to rehabilitate the Albany and Quincy Bus Garages, as well as provide a new bus lobby and turnaround in South Boston, Mass.

It is anticipated that Phase IV improvements, now underway, will be completed in 1984. Future improvements, through this program, would require a new grant - Phase V. Phase V would identify needed improvements not previously contained in earlier Phases.

CAPITAL BUDGET AND FEDERAL GRANTS

CHAPTER VIII

The Authority's capital improvement and expansion program has evolved from a relatively minor upgrading effort to a multi-billion dollar program. The development and execution of this plan is a coordinated undertaking which involves the support and cooperation of a number of state departments and agencies.

Under Chapter 161A of the Massachusetts General Laws, the Executive Office of Transportation and Construction (EOTC) is responsible for the preparation of the MBTA's capital investment program. In compliance with this legislative mandate, the MBTA submits on a yearly basis, its Capital Budget recommendations to the Secretary of EOTC. This document identifies both the Authority's capital needs and the potential sources of Federal grant assistance. Once approved by the Secretary, this report serves as the guideline for the development of the programming documents and the capital grant applications necessary to obtain Federal funds for capital improvements.

The projects identified in the Capital Budget are prescreened to insure that they are included in the "Transportation Improvement Program" (TIP) which is prepared by the Central Transportation Planning Staff (CTPS) for the Metropolitan Planning Organization.

The "T.I.P." is one of several documents required by the Urban Mass Transportation Administration (UMTA) as a prerequisite to the receipt of Federal transportation funds. The Metropolitan Planning Organization (MPO) consists of the following member agencies:

Executive Office of Transportation and Construction (EOTC)

Metropolitan Area Planning Council (MAPC)

Massachusetts Department of Public Works (MDPW)

Massachusetts Port Authority (MPA)

Massachusetts Bay Transportation Authority (MBTA)

MBTA Advisory Board

Similarly, all the projects are consistent with the "Program for Mass Transportation", which is the long-range plan for improving public transportation facilities in the area served by the MBTA. The "P.M.T." is a State required document and is prepared by EOTC for submission to the MBTA Advisory Board.

Thus, every effort is made by the MBTA to assure that the projects and recommendations discussed in the Capital Budget are consistent with the larger metropolitan and regional transportation planning process, which is required by both Federal and State law to ensure a continuing, comprehensive process carried out cooperatively by state, regional and local officials.

The MBTA's capital program is designed to implement policies and priorities which result from this inter-governmental planning process.

MBTA'S CAPITAL BUDGET PROCESS

Capital Program Funding Committee

Within the Authority, the principal responsibility for programming capital improvements and expenditures rests with the Capital Program Funding Committee which is an interdepartmental committee consisting of the General Manager and the Directors of the Construction, Operations, Railroad Operations, Materials, Budget, and Treasurer-Controller Departments. Staff assistance is provided by the Capital Program Section of the Construction Directorate.

The major task of the Capital Program Funding Committee (CPFC) is to deal with the recurring process of balancing the need for capital funds (the demand) with the annual availability of Federal capital and local bond funds (the supply).

In recent years the Authority's requirements for capital funding have increased dramatically. Rapid transit extensions on both the Red and Orange Lines along with a systemwide rehabilitation and improvement program have driven the Authority's needs to all time high levels. At the same time, public pressure to reduce taxes and governmental cost have increased on both the Federal and local levels. The effects of this situation have been felt in all areas of government and the mass transportation sector has not been spared.

The MBTA, which relies on both Federal and State funds for its capital improvement program, has had to deal with these fiscal realities while trying to continue with those projects which will result in significant improvements to mass transit.

In view of this situation, the work of the Capital Program Funding Committee, becomes all the more important. The limited resources must be allocated in such a way as to maximize the impact of these funds while minimizing construction and procurement schedule delays. The evaluation process which has been utilized by the CPFC has been designed to accomplish this goal. This review has, as its basic foundation, two elements: Incremental Capital Programming and a Project Rating Process both of which will be described in detail. With the assistance of these programs, the effects of Federal cutbacks have been reduced as much as possible.

Incremental Capital Programming

When Federal funding first became available, the grant process entailed a project application which set forth the scope of work, provided the estimated cost and requested the funds to meet that estimate. As time passed several problems became apparent. First of all, the projected cost and schedules were most often the victim of optimistic targets. In many cases, the complex phasing required to

address transit projects proved impossible to accurately predict which in turn resulted in cost overruns. At the same time, while the original grant award would be initially greeted with much fanfare, in fact the majority of those funds sat idle for years while the required design and gearing up process was underway. In addition, as larger capital projects reached the application stage, it became apparent that a single project could in fact cost the equivalent of several years worth of grants.

Along with those previously described concerns, the issue of flexibility was also a major factor. The grant process as originally utilized was unable to quickly address changes in priorities because funding in significant amounts was tied to specific projects. Here again, it is important to note that many of these funds, although included in an approved budget, were in fact not being utilized due to construction scheduling.

To address all of these issues, the Authority has been utilizing a process called Incremental Capital Programming (ICP). In its simplest form, this process seeks to identify project costs over a 12-month period vs. the total cost method previously used.

For example, a particular project estimated to require \$50M in Federal funds would, under the previous grant process, be funded to the full extent as part of the original application. With ICP, the total cost to complete estimate would be identified but only those funds required to meet project obligations over a 12-month period would be requested. Members of the Project and Capital Programming Staffs would meet to review the project schedule and establish the appropriate 12-month funding mark.

The advantages to Incremental Capital Programming are numerous. First of all, this method allows for a yearly updating of project cost. In the budgeting for each project over its life, actual costs are substituted for prior estimates as funds are committed. Also, as design or development of the project proceeds, the Authority is in a better position to determine future packaging of construction contracts. Since project scheduling has a major impact in future costs, any significant delays can be identified and the project estimate re-evaluated.

Perhaps the most significant aspect of the ICP is that the Authority can now program funds in such a way as to avoid those long periods of time during which grant funds used to lay idle. Reverting back to the prior example of a \$50M project, ICP would take into account the cost and time to design the project and also account for the packaging of the various construction contracts. With a \$50M project it is conceivable that only \$5M would be required in year one with additional grants, depending on contract schedules, programmed on a multi-year basis. The ICP process thus affords the Authority with the ability to utilize in year one, for example, \$45M in funds which would otherwise be unavailable.

The Authority would then, using the same ICP process, calculate the

needs for additional projects and thus proceed on several fronts in lieu of a single project approach. Since the Authority's current demands for capital funds far outweigh the financing ability of the Federal and state governments, the ICP process becomes all the more important by maximizing program activity.

When future project funding requests are presented, the members of the Capital Program Funding Committee review the prior year's accomplishments and commitments to determine if any funds are available to reduce the future funding needs. This process not only identifies existing available funds but also allows the members of the committee the opportunity to analyze the project's actual record of commitment vs. prior projections.

Since priorities within any public agency are often the victim of changing times and conditions, it is important to be able to direct capital funds to meet some of those demands. The process of packaging contracts and commitments into identifiable segments and incrementally funding them has also afforded the Authority with a degree of flexibility which allows it to respond to new priorities. Should a situation occur which requires a commitment of Federal funds for which no previous allocation had been programmed, a review can take place and selected elements of work from one or several ongoing projects can be deferred. This approach enables the Authority to reschedule those work items which are, based on a relative scale, least important.

For all of the aforementioned reasons the Incremental Capital Programming process has proved to be an important tool in the management of the Authority's capital program.

Project Rating Process

The Incremental Capital Programming technique, previously described, provides an initial categorization of candidate projects and in past years was able to provide funding for nearly all projects. However, the Authority in recent years has found that its needs could not, even with the ICP, be met on a yearly basis. The pressures exerted by Federal cutbacks have increased and even under a level funding approach, the Authority has seen its purchasing power eroded due to cost escalation.

In order to more effectively set priorities for capital funding, the Authority has instituted a Project Rating Process. This evaluation applies weighted criteria in considering projects to be funded in any one year. These criteria include the impact the completed project would have on the operating budget, ridership, providing sufficient equipment, maintaining rights of way, improving maintenance facilities, and a number of other factors.

As you will note in Table 8-1, weighted value (from 1 to 10) is applied to each of 15 stated criteria. This weight is set by the members of the Capital Program Funding Committee and then applied uniformly to all projects being reviewed for funding. Each project is

then rated from 0 to 3 in all 15 categories. The weighted value is then multiplied by the rating to create a product. The products for the 15 categories are then totaled to produce a total project score. Following this process, each project is placed in priority order based on the relative scores.

EVALUATION PROCESS		I. SET POLICY WEIGHTED CRITERIA			II. ESTABLISH WEIGHTED VALUES FOR EACH CRITERIA (1-10)			III. DETERMINE RATINGS FOR EACH INDIVIDUAL PROJECT (0-3)			IV. CALCULATE PROJECT SCORES			V. FINAL APPROVAL		
DEVELOPED BY CAPITAL PROGRAMMING STAFF AT RECOMMENDATION OF/AND WITH CON- CURRENCE OF CAPITAL PROGRAM FUNDING COMMITTEE																
COMMITTEE MEMBERS																
GENERAL MANAGER																
DIRECTOR OF OPERATIONS																
DIRECTOR OF CONSTRUCTION																
DIRECTOR OF RAILROAD OPERATIONS																
BUDGET DIRECTOR																
TREASURER CONTROLLER																
DIRECTOR OF MATERIALS																
		A. CURRENT SERVICE LEVEL			WEIGHT			RATING			PRODUCT					
		1. PROVIDE SUFFICIENT EQUIPMENT			10			x			=					
		2. MAINTAIN R.O.W., POWER FACILITIES			10			x			=					
		3. IMPROVE MAINTENANCE FACILITY			9			x			=					
		B. EXPAND SERVICE LEVEL														
		4. PROVIDE ADDITIONAL VEHICLES			4			x			=					
		5. ADD TO, UPGRADE R.O.W., POWER FACILITIES			3			x			=					
		6. EXPAND MAINTENANCE FACILITY			5			x			=					
		C. OTHER CRITERIA														
		7. MODERNIZE OTHER OBSOLESCE FACILITIES			5			x			=					
		8. IMPROVE OPERATIONS			7			x			=					
		9. BENEFIT SUBSTANTIAL NUMBER OF RIDERS			6			x			=					
		10. IMPROVE COMFORT, CONVENIENCE FOR PASSENGERS			4			x			=					
		11. EFFECT ON OPERATING BUDGET			10			x			=					
		12. SPECIFIC REQUIREMENTS OF GOV'T. AGENCIES			3			x			=					
		D. SCHEDULING CRITERIA														
		13. COMPLETE, OR ADVANCE EXISTING PROJECT			6			x			=					
		14. COORDINATE W/OTHER HIGH-PRIORITY PROJECTS			3			x			=					
		15. COORDINATE W/OTHER PUBLIC AGENCIES, ETC.			1			x			=					
		TOTAL														

Table 8-1

Once the projects with their requested budgets are prioritized, the available Federal and state monies can then be applied to determine how many projects actually receive funding. It has been increasingly difficult to fund all projects in recent years so those projects on the lower end of the priority scale must be deferred to the next year, when they must again compete for the available funds.

At the direction of the General Manager and the other members of the Capital Program Funding Committee, it has been the practice of the Capital Programming Staff to file Federal grant applications in excess of stated funding limits. In the event that other transit agencies are unable to accept their full Federal share, the Authority has been and will continue to be ready with approvable grant applications to accept any additional funds.

MONITORING AND CONTROL

The Construction Directorate's nearly 3 billion dollar Capital Expansion and Modernization Program contains over 60 active Federal grants which range from massive projects such as the Southwest Corridor Relocation Project for approximately \$792 million to an Emergency Energy System for our Trackless Trolleys for \$77,000. In order to properly monitor and control these diverse projects, an organizational structure and control procedures have been established. This structure and its procedures have over the years been refined to meet Federal and state requirements for capital expenditures.

The Director of Construction has the overall responsibility and authority for the Capital Expansion and Modernization Program. The Assistant Directors of Construction are his primary aides through their responsibility for executing projects on time and within budget. The Construction Quality Control Section is responsible for monitoring the quality of contractor workmanship, training of the Authority's inspectors and resident engineers to assure attainment of a quality product, and performing material tests to insure compliance with construction specifications.

At the Project level the budgeting process begins. The budget analyst initiates a work order number to budget costs for a contract, purchase order, or force account effort. This work order is reviewed by the Program Control Section, a centralized cost monitoring unit within the Construction Directorate, to insure that there are sufficient funds available within the Grant, and that the effort is within the scope of the grant budget. If funds are available, the work order is approved and sent to the Treasurer-Controller's Department for authorization to expend the applicable monies. In some cases UMTA approval is required before Program Control can forward a work order for authorization. For example, Authority Force Account efforts of more than \$25,000 must be submitted to UMTA for approval.

The Authority's Staff Procedure No. 12 outlines these financial control steps thoroughly. This procedure insures that a work order cannot be opened unless funds are available within a particular grant.

The Program Control Section by insuring that this procedure is followed, protects the Authority from having its costs disallowed by Federal and state agencies.

In the area of Force Account efforts (capital improvements performed by Authority operating department personnel), a procedure has been developed whereby Force Account work is utilized only when it has been determined by the Force Account Selection Committee to be in the best interest of the Authority. This work is then monitored by the project budget analyst and the Supervisor of Force Account and Cost Allocation through the reports of Cost and Schedule Control (CASC) system. This review is undertaken to control problems associated with cost overruns.

Cost and Schedule Control (CASC)

An aid to the Program Control Section has been the creation of the CASC System. The Budgetary Subsystem and the Monitor and Control Subsystem of CASC were established to provide the projects with computer on-line capability for budgetary data. This system allows budget updating to be performed by project personnel in a timely manner. The continuous on-line updating of budgets eliminates delays in obtaining the current financial status of the Construction Directorate's Programs. Through the use of computer terminals, the Program Control Section has instantaneous access to the most current budget information on which to make its analysis. Other areas in the CASC system include Scheduling and Contract Administration. The Scheduling subsystem provides the ability to produce a master schedule of the Construction Directorate programs or a detailed schedule of specific construction contracts. The Contract Administration which was designed to provide the Authority with improved control of its entire contracts process subsystem is in effect from the beginning of the bidding process and continues through contract award, payments, and change orders.

The Program Control Section approves the payments of all contractors, consultants, and vendors to insure that there are funds available for the payment, and that the proper Federal grant is being charged. The early coordination among the project budget analyst, the Program Control Section and the Treasurer-Controller's Department of all work orders, requisitions, change orders, and supplemental agreements insures that the payment process will not be delayed due to a question of funding source.

The Program Control Section also develops cash drawdown schedules in conjunction with the Project Managers to determine the bond requirements of the Authority's capital improvement program. This information provides the Treasurer-Controller's Department and its bond counsel with the data needed to support issuance of a Bond Prospectus.

The Construction Directorate's commitment to bringing a grant to a successful completion within established schedules and budgets is the overall objective of the monitoring and control process and the procedures previously discussed were developed to meet that objective.

FEDERAL FUNDS

History of Federal Involvement

With passage of the Urban Mass Transportation Act of 1964, the Federal government embarked on a program of financial assistance to aid the states and local governments in the rehabilitation and expansion of the nation's mass transportation system. Prior to 1964, mass transit throughout the nation was thought to be a local matter requiring local solutions but with passage of the UMT Act the process of infusing much needed Federal capital into an aging transit system was begun.

Realization that well maintained transit systems were important to the country as a whole had not only been reached but acted upon. The Act itself spelled out in a definitive way, the reason for Federal involvement.

"It is declared to be in the national interest to encourage and promote the development of transportation systems. . . . that will serve States and local communities efficiently and effectively."

The MBTA's partnership with the Federal government began on February 15, 1965 with the award of a \$6M grant for a Station Modernization Project. Between 1965 and the present Federal funds in excess of \$2.2B have been received by the Authority. On an annual basis, as shown in Table 8-2 the grant awards have gone from a low of \$356,854 in 1970 to a high of \$317,960,498 in 1980.

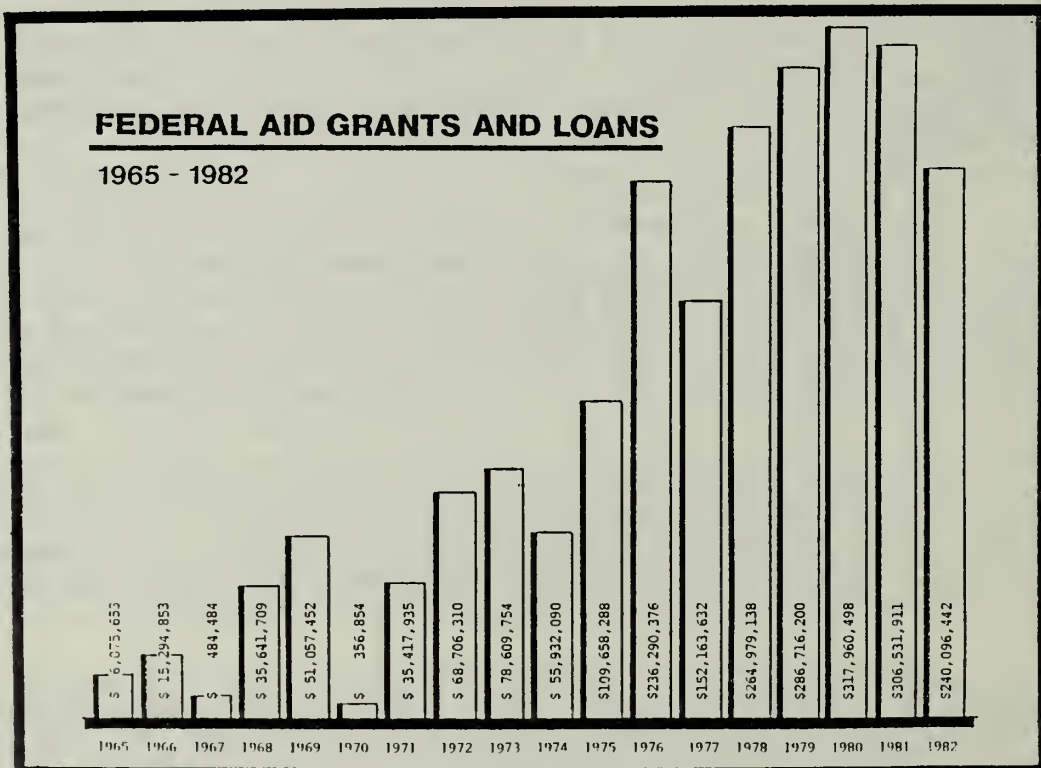


Table 8-2

Federal Funding Sources

The Urban Mass Transportation Administration (UMTA), an agency of the United States Department of Transportation (DOT) provides for either 80% on 85% (depending on the funding section) of the cost of MBTA capital projects which it approves. It has been the MBTA's policy to finance practically all capital projects via Federal grants in order to reduce the Authority's cost along with those of the state, cities and towns and maximize available bond authorizations.

The federal capital funds come from various sources, as identified by sections of the Urban Mass Transportation Act, the "Interstate Highway Transfer" provision of the Federal Aid Highway Act of 1973, and the various appropriations acts of the Congress. The grants received by the Authority have principally come from three specific areas: Section 3 including Rail Modernization, Bus Capital and Urban Initiatives, Section 5 Bus Capital and Operating Assistance, and Section 23 Interstate Transfer.

Section 3 Funds

Section 3 funds, with which UMTA provides 80% of a project's cost, are made available to various urban areas at UMTA's discretion, subject to an annual limit on grant awards. Under the Section 3 funding source are several categories including Rail Modernization, Bus Capital and Urban Initiatives.

Rail Modernization Funds

The Authority has utilized Section 3 Rail Modernization funds to finance the majority of systemwide improvements which are either completed or underway. The Authority's practice has been to use these funds for the rehabilitation or replacement of its existing physical plant and rolling stock (exclusive of buses and bus facilities). The 1982 grant totals for these funds equaled \$63M and an additional \$15.75M was added as the 20% local share to bring the total budget up to \$78.75M. Provided below is a list of the 1982 projects under the Rail Modernization category along with the applicable Federal grant award:

Track Improvements	\$ 5.0M
Green Line Improvements	\$11.1M
Commuter Rail Improvements-Ph. III	\$ 3.5M
Everett Maintenance Facility	\$ 5.7M
Station Modernization	\$ 2.0M
Modernization of Camb./Dor. Cars	\$22.5M
Power Improvements	\$ 2.9M

Systemwide Signals and Commun.	\$ 7.1M
Safety Improvements	\$ 1.3M
Commuter Rail Improvements- Ph. IV	\$ 1.1M
Transit Park-Ride	<u>\$.8M</u>
TOTAL	\$63.0M

Bus Capital

Under the provisions of the UMT Act, Section 3 Federal funding is available for bus procurements and the upgrading of buses and bus facilities. Purchasing new buses has been an ongoing program which is designed to gradually reduce the average age of the total bus fleet. This replacement process is subject to an UMTA requirement that buses to be replaced must be at least 12 years old. The FY'82 Section 3 Bus Capital funds were totally committed to bus facilities as opposed to the purchase of new buses. This decision was based on several factors; the number of available 12-year old buses eligible for replacement, a program to rebuild 70 buses from the existing fleet and the need to upgrade the Authority's bus maintenance facilities. A more detailed description of bus procurements and rehabilitation efforts are included in Chapter VI of this report. The Section 3 Bus Capital funds were awarded for the following projects in 1982:

Transit Efficiency (Vacuum Fare Collec.)	\$.4M
Plant Improvements - Ph. IV (Bus Garages)	\$1.0M
Everett Mtn Facility (Bus Overhaul Shop)	<u>\$6.1M</u>
TOTAL	\$7.5M

Urban Initiatives

The term "urban initiatives" describes UMTA's response to the announcement by President Carter on March 27, 1978 of an urban policy which would coordinate actions among a number of Federal agencies to confront the problems of urban decay. The mass transit component of the Urban Policy, "Urban Initiatives Program" had as its principal components intermodal transit facilities and joint development projects. In addition to the transit improvements which were to be realized, the Urban Initiative Program was designed to also stimulate new employment and attract private investment.

The Authority, beginning in 1979, took advantage of this program and filed capital grant applications for both its

South Station and Kendall Square Station Projects. To date South Station has received \$30M in Urban Initiative funds while Kendall Square has been awarded \$9.2M. Based on the Reagan Administration's decision to terminate the Urban Initiatives Program in 1982, the FY'82 funding which was designated for South Station marked the last grant award under this category. The actual funding for South Station is \$14.0 million.

Section 5 Funds

Section 5 funds, which encompass both bus capital and operating assistance grants, are, unlike the Section 3 discretionary funds, allocated on a prescribed formula basis.

Operating Assistance

Section 5 provides 3 levels or "tiers" of operating assistance grants. Tiers I and II which are allocated to the Systemwide Operating Budget, are based on an urbanized area population and population density formula. Tier III which is applied to the Commuter Rail Department's Budget is determined by commuter rail train and route miles. Further discussion of the Operating Budget and the Federal subsidiaries are provided in other chapters of this report. The following breakdown of FY'82 funds is provided here for informational purposes as they relate to the total Federal funds received this year.

Tier I	Systemwide Oper. Asst.	\$16.0M
Tier II	Systemwide Oper. Asst.	\$ 3.9M
Tier III	Commuter Rail Oper. Asst	<u>\$ 6.3M</u>
	TOTAL	\$26.2M

Bus Capital Funds

Section 5 also includes funding for bus capital projects. The funds available under this section complement the Section 3 Bus Capital which was previously discussed. The funds are classified under Section 5 as Tier IV and the appropriation limit is based on population and population density. In 1982 \$6.6M was awarded to the Authority under Section 5 Bus Capital for the following projects:

Transit Efficiency (Vacuum Fare Collec.)	\$3.0M
Plant Improv.-Ph. IV (Bus Garages)	<u>\$3.6M</u>
	TOTAL \$6.6M

Section 23 - Interstate Transfer

Title 23, U.S.C. Funds, through which UMTA provides 85% of a project's cost, are made available to those urban areas which have withdrawn segments of the approved Interstate Highway network and redesignated the funds for use for mass transit purposes. In 1974, Massachusetts withdrew several Interstate Highway segments proposed for construction in the Boston area and made the \$603 million earmarked for these highways available for transit construction.

Later, the Federal Aid Highway Act of 1975 established a cost escalation provision to adjust for increases in construction costs. The Interstate Highway Transfer Account earns "interest" based upon changes in the highway construction cost index. The net effect of this indexing provision increased the original fund of \$603M to over \$1.3B.

The Authority's practice has been to use its Interstate Highway Transfer funds for new service commitments, ie. the South Shore Red Line Extension to Braintree, the Northwest Red Line Extension to Alewife, the Orange Line Relocation (Southwest Corridor) Project and the vehicles for those new services.

In consideration of the magnitude of the Northwest Extension and Southwest Corridor Projects which are now under construction, UMTA has directed the Authority to totally dedicate the remaining Section 23 funds to these projects in order to assure sufficient financing. At the present time, there is approximately \$155M remaining in the account and the Authority is confident that both the Orange and Red Line projects will be completed within those funding constraints.

In 1982 the Authority was awarded \$132.7M under Section 23. The project allocation of those funds was as follows:

Red Line Northwest Extension	\$ 8.0M
Southwest Corridor Project	<u>\$124.7M</u>
TOTAL	\$132.7M

Analysis of Grants Awarded to Date

Since 1965 the Federal Government has awarded the Massachusetts Bay Transportation Authority \$2,264,138,523 in Federal funds. These grants have been utilized to meet a variety of MBTA, state and local needs. Provided in Table 8-3 is a chart which depicts the degree to which various elements of the Authority's system received those Federal funds. For purposes of this presentation, the categories include - Extensions, Equipment, Facilities, Commuter Rail, Operating, and Miscellaneous.

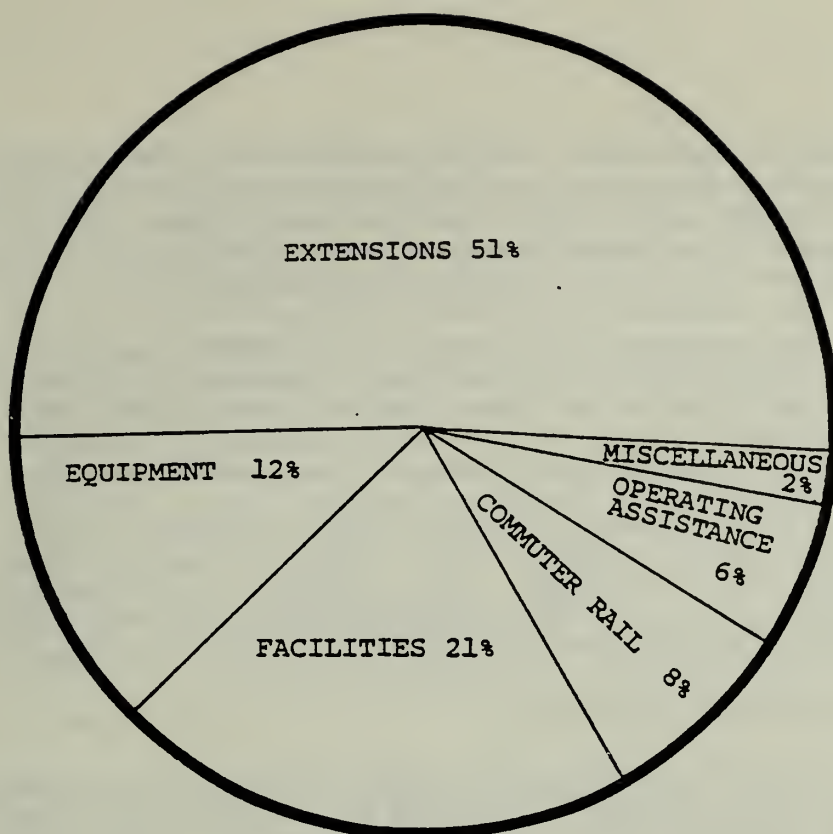


Table 8-3

Included in the Extension figure are the Red Line extensions to both Braintree and Alewife, along with the Orange Line projects to Forest Hills and Oak Grove. The Equipment category, which is for revenue vehicles only, includes new Orange and Blue Line trains, Green Line vehicles, Buses and vehicle rehabilitation programs. Under the heading of Facilities are station modernization, track, signal, power, maintenance facilities, and assorted systemwide and plant improvement programs. Commuter Rail reflects the cost to purchase the original equipment and rights-of-way from the Penn Central and Boston & Maine Railroads along with the numerous rehabilitation and procurement efforts that have gone into that system. The Operating Assistance funds include both the Systemwide and Commuter Rail subsidies while the Miscellaneous category reflects such areas as technical study, training, research and development grants.

State and Local Matching Funds

UMTA currently provides either 80% or 85%, (depending on the funding section) of the funds necessary to carry out a project; this amount may be referred to as the "Federal Share". The difference, either 20% or 15%, is the "local share" and is provided by the sale of bonds which the Legislature has authorized the Authority to issue.

The annual principal and interest payments to retire these bond issues are included in the Authority's Operating Budget (current expense budget). The principal and interest payments generally are handled in

either of two ways: (1) by the cities and towns through the "net cost of service" assessment, or (2) through "contract assistance" in which the Commonwealth of Massachusetts pays either 50% or 90% of the payments. In recent years, there have been more 90% "contract assistance" agreements with the Commonwealth.

The Legislature has increased the MBTA's capital bond authorizations from time to time in order to ensure that funds are available to allow the Authority to "match" all available Federal funds. When making such authorizations, the Legislature sometimes "earmarks" certain of the proceeds for specific projects or categories of projects.

With the passage of Chapter 732 of the Acts of 1981, the Authority was assured of sufficient "local share" to match Federal funds into the 1983 Federal fiscal year. When passage of the Federal budget is completed and the MBTA's funding limits set then a determination will be made as to the need for additional bonding authorization in 1983.

Future Needs and Direction

Despite the substantial support provided by the Federal Government since 1965, the Authority's need for future Federal funding is critical to the success of mass transportation in this area. While all transit agencies would be adversely affected by a reduction in Federal assistance, the MBTA, due to its position as the oldest transit authority in the country, finds itself in a position of even greater dependency. The system's age along with the many years of deferred maintenance have created a situation which must be addressed and resolved. Unfortunately, the scale of this effort is such that the Commonwealth and the local cities and towns do not have the financial resources required to deal with the problems at hand.

The Federal funding received to date has enabled the Authority to initiate a number of programs designed to reverse this aging process while at the same time providing service to new areas. Despite the numerous improvements already completed and those underway, there are major efforts still to be undertaken before the Authority reaches the level and quality of service that is expected and required.

The Authority's Capital Program has recorded a number of successful efforts in past years and those accomplishments are indicative of the potential within the MBTA to undertake and complete such ventures. At the present time, the Authority finds itself in a position that construction schedules are being deferred due to insufficient Federal funding. For example, an initial review of project requests for 1982 Section 3 Rail Modernization funds reflected a need in excess of \$160M. Since the FY'82 funding limit for this category of funds was \$63M, many projects and contracts had to be deferred. Those elements are now included in the 1983 requests in addition to the projects previously scheduled for that time period. The original 1983 requests for Rail Modernization funds exceeded \$175M.

Against this scenario of increased demand, the Authority is faced with the prospect of Federal reductions. The Reagan Administration's efforts to reduce Federal spending have already taken their toll. With each year of reduced or level funded budgets, the Authority slips further back. The momentum, which was generated by various individuals and interest groups to address the nation's transit problems, has been slowed down and unless corrective action is taken, it could be brought to a standstill. The major initiative for the future must be toward a reaffirmation of the Federal Government's commitment to mass transit.

If the problems facing the Authority were cosmetic in nature, a decision to redirect funds could be understood and supported. Unfortunately, the issues facing the Authority deal with the basic ability to provide a safe, reliable service at a reasonable cost. At present, projects to upgrade tracks, tunnels, power, signals, and facilities are subject to deferral due to insufficient funds. Should the Administration be successful in further transit related reductions, deteriorating conditions within our system could well increase and ultimately surpass our ability to correct them.

Of particular concern is the future funding levels for Section 3 Rail Modernization and Section 5 Operating Assistance. In the case of the Section 3 funds, the inadequacy of current grant levels has already been discussed and the subsequent problems identified. An aggressive campaign and lobbying effort must be maintained if realistic funding limits are to be set. Failure to achieve success in this area will cause significant long-term problems.

The Section 5 Operating Assistance grants present an even greater challenge. The Reagan Administration's plans to systematically reduce and eliminate these funds are a major blow to all public transit systems. The MBTA in particular has experienced major budgetary crisis during the past few years and elimination of Federal operating subsidies would imperil the Authority's ability to provide a reasonable level of service.

The Authority's needs are clear but the future direction of mass transit will depend to a great extent upon the ability of the Commonwealth and the MBTA to pursue and secure appropriate levels of Federal operating and capital funds.



PLANNING AND DEVELOPMENT PROGRAMS

CHAPTER IX

Presented in this chapter is a description of the MBTA's Planning and Development Programs. These efforts are oriented towards identification of need, as related to short-term operational improvements and future capital construction projects.

An active and intense staff effort is underway to advance certain projects which are deemed priority and close to construction. These are:

- South Station Transportation Center
- North Shore Transportation Improvements Program
- Transit Park/Ride Program
- North Station Improvements Project
- Green Line Northwest
- Forest Hills to Needham
- Replacement/Transit Improvement Project
- Columbia Station Expansion

The Planning Process

The planning program for the Boston Region is addressed collectively by the area's Transportation and Planning Organizations. The MBTA is a member of this group which is known as the Metropolitan Planning Organization (MPO) which is described in Chapter VIII of this report.

The MBTA's financial participation in the Region's transportation planning occurs through two contracts. In accordance with state law, the MBTA contracts with EOTC on an annual basis for preparation of the MBTA's Plans and Programs. The contract for 1983 is currently being processed. In turn, the MBTA and EOTC enter into a contract with MAPC for the undertaking Transportation Administration grant and financing of the Central Transportation Planning Staff (CTPS). CTPS is the staff of the MPO.

The planning program produces two basic products as described in Table 9-1 - The Transportation Plan and the Transportation Improvement Program.

Transportation Plan

The Plan presents the policies and framework for both long-range capital improvements and short-range operational improvements.

Support Activities

To assist in identifying transportation needs and establishing policy, a number of activities are undertaken in support of the Transportation Plan. The MBTA is taking the lead role in two such efforts:

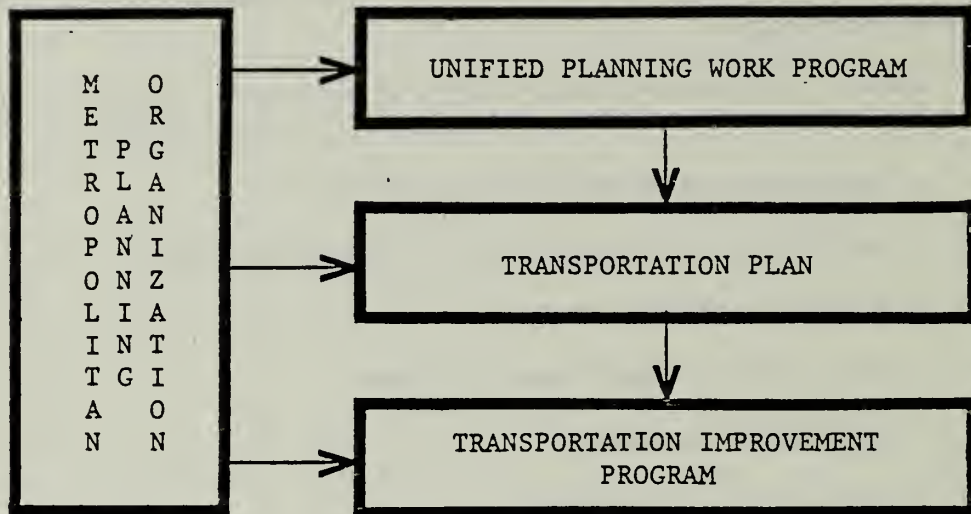


Table 9-1

General Relationships of the Major Elements Required for Federal Certification Under the Urban Transportation Planning Process

Unified Planning Work Program

- description of work performed at the planning or problem definition

Transportation Plan

- description of the long-range governmental policies that lead to major capital improvements to the region's existing transportation system and a description of the short-range governmental policies that lead to operational improvements to the region's existing transportation system.

Transportation Improvement Program

- description of projects that would be eligible for the implementation stage in the current fiscal year and a description of projects that would be eligible for the implementation stage in the next 2-5 years.

1982 Title VI Assessment

The Title VI Assessment is a Federally-required effort to assure non-discrimination in the use of Federal funds. The assessment includes geographic identification of minority populations and an assessment of services to minorities vs. non-minorities. The assessment assists the MBTA in identifying potential service inequities and thereby take corrective action. The 1982 Title VI Assessment is scheduled for completion in December.

Short Range - Operations Planning

Operations Planning activities are undertaken in close cooperation with operating departments. Two major efforts which are currently underway are the 1981 Fare Increase Studies and Project SENTRY.

1981 Fare Increase

As a result of the 1981 Fare Increase, the MBTA was required to prepare an Environmental and Socioeconomic Impact Report (SEIR) and a Management Practices Report. The purpose of the SEIR has been to identify the impacts of the fare increase on the transit market and the environment and to identify the adjustment necessary to mitigate against any unacceptable impacts. The purpose of the Management Practices Study has been to identify management actions which will improve service and reduce costs. Both reports are scheduled for finalization prior to the end of 1982.

Project SENTRY

SENTRY consists of the development and testing of procedures to evaluate MBTA bus services. In 1977 the MBTA established a Service Policy for Surface Transportation. That policy document contains service standards for bus operations. The document identifies standards of service (service frequency, bus loading, and on-time performance) for various route types (local, express) and various market groups such as the elderly. Project SENTRY has included a review of the service standards, design of data collection and evaluation procedure, a test of the procedure on buses operating out of the MBTA's Arborway Garage and an evaluation of the overall service evaluation process. The testing portion of the project is near completion. A final report is scheduled for completion at the end of 1983.

The Transportation Improvement Program

The Transportation Improvement Program draws from the projects identified in the Transportation Plan, and, based upon need, cost-effectiveness, project schedule, and funding availability, identifies the funding program for MBTA capital improvements. The MBTA Capital Budget Process is described more fully in Chapter 8.

Projects addressed in the Capital Program can be described in two categories: Modernization Projects and Expansion Projects. Modernization Projects consist of those projects which have as their objective the enhancement, renovation or replacement of the MBTA's basic plant. Expansion Projects are those capital improvements which result in expansion of the transit system such as extension of rail lines.

In support of the MBTA's Capital Budget Process and the Transportation Improvement Program, the MBTA is initiating a Plant and Facilities Development Program to provide more detailed information on the MBTA's Modernization Projects. The Plant and Facilities Development Program consists of an evaluation of proposed capital investments in the MBTA's plant over the next five years. The purpose of the evaluation is to identify priorities based upon need and cost-effectiveness and to develop a coordinated schedule for project implementation. The program will serve as a guide to the MBTA's Capital Program Funding Committee in their Budget Process, as described in Chapter VIII. Work on this project which will be undertaken by a consultant is scheduled to begin in early 1983.

Unlike many Modernization Projects, the Expansion Projects must go through a development phase prior to implementation. Some modernization projects which have a significant impact on the community, such as reconstruction of major stations, must also go through a development phase. Due to the potential community impact, the design of these projects is undertaken with community input and addresses design alternatives as they effect the environment as well as transit service and operations. These Development Projects are discussed in the following section.

South Station Transportation Center

The MBTA, in cooperation with the Boston Redevelopment Authority and the Federal Railway Administration, is in the process of renovating South Station and increasing its usefulness as the South Station Transportation Center. Toward this end, the Federal Railway Administration and the MBTA are investing in excess of 100 million dollars in the Railroad Terminal at South Station. The (T) is doing this with a combination of state and Federal funds, and the FRA is participating as part of the Northeast Corridor Improvement Project.

Plans call for completely new track and signal system, high platforms to improve passenger access to the trains and major improvements to the main "headhouse". The (T) will also improve and lease out as rental property the upper floors of South Station.

Coupled with this effort are the MBTA's plans to construct an intercity bus terminal on an air rights structure above the railroad tracks. Closely allied with this would be the facilities for express commuter buses to be located on the same level.

The BRA has plans to construct several layers of automobile parking above the bus terminal, with provisions for major commercial development structures to occur above the parking garage.

Preliminary utility relocation contracts have already been executed and, in some instances completed, with the first major construction project scheduled to occur in the spring of 1983. The first phase construction effort represents the track and terminal improvements, while the phase two construction package will include the air-rights structure, bus terminal and access ramps scheduled to start in 1986 to be completed by 1988. Completion of the BRA component will occur after the MBTA's development effort and is contingent upon funding availability at that time.



WEST ELEVATION



WEST ELEVATION
WITH AIR RIGHTS

Above is the Atlantic Avenue elevation of the completed transportation center. Below is the same elevation as it might appear upon completion of the proposed air-rights hotel, office, building, and trade center.

North Shore Transit Improvement Project (NSTIP)

This project consists of four components: Commuter Rail Upgrade, Bus Improvements, Wonderland Station Upgrade and Blue Line Extension to Lynn. These four components are more fully described in the NSTIP Draft Environmental Impact Statement published in 1979.

The Commuter Rail Upgrade can in turn be described in three elements: Central Square Station, Eastern Route Right-of-Way (ROW); Mystic River to Lynn; and Salem Station.

The first phase of the Lynn Central Square station upgrade, a \$321,000 work effort is near completion. This project consists of new stairways, lighting, repaved platforms, and new roofing on canopies. It is anticipated that an additional \$700,000 will be required for a future-major rehabilitation.

The condition of the Eastern Route right-of-way is also a subject of major concern. Consequently, \$2.9 million is budgeted for improvements to the ROW between the Mystic River in Chelsea and Central Square Lynn. Selection of a design engineer is now underway with design scheduled to begin in the first quarter of 1983 and construction later in the year.

The North Shore Economic Council in conjunction with the MBTA is undertaking a study to address potential improvements to local bus service. The study which began in July of 1982 is scheduled for completion in the first quarter of 1983.

Construction of a major parking garage at Wonderland Station had been proposed in conjunction with the construction of direct highway access to Route 1 via the Revere Beach Connector and in conjunction with proposed development of the Revere Beach area. Neither the highway project nor the development have advanced as planned. As a result, the MBTA is now contemplating smaller-scale improvements at Wonderland Station and possibly some upgrading of Revere Beach Station.

Federal policy regarding new rail extension has changed during the Reagan Administration. UMTA will no longer provide Federal funds for extension projects and therefore the Blue Line Project from Wonderland Station to Central Square Lynn has been deferred.

Transit Park-Ride Improvement Program

There are approximately 19,000 parking spaces available for use by commuters within the MBTA service area. Of these, about 11,000 serve the rapid transit and trolley system; 5,900 serve the Commuter Rail system; and 600 serve buses only. The remaining 1,400 parking spaces are served by private bus carriers.

The purpose of the Transit Park-Ride Improvements Program is to improve access to line haul transit services, particularly in low density areas, through more efficient design of existing parking facilities, expansion of existing facilities and construction of new facilities.

The program consists of improvements at 16 existing sites and expansion or new construction at 18 sites as follows:

Existing Sites

Rapid Transit

- o Wood Island (Blue Line)
- o Orient Heights Station (Blue Line)
- o Beachmont Station (Blue Line)
- o Butler Street Station (Mattapan - Red Line)
- o Mattapan Station (Mattapan - Red Line Terminus)
- o North Quincy Station (Red Line)

Commuter Rail

- o Reading
- o Melrose Highlands
- o Melrose Cedar Park
- o Lincoln Station
- o Wellesley Farms
- o Wellesley Square
- o West Newton
- o Readville
- o Swampscott

Bus

Arlington - Route 2 - (near Cambridge line)

New Construction

- o Belmont: Belmont Center
- o Beverly: Beverly Depot

o Beverly:	North Beverly
o Boston:	Fairmount Station
o Boston:	Suffolk Downs
o Boston:	Sullivan Square
o Burlington:	Rte. 3 @ Rte. 128
o Canton:	Canton Center
o Concord:	West Concord
o Ipswich:	Ipswich Station
o Lexington:	Hartwell Avenue @ Rte 128
o Natick:	Natick Station
o Newton:	Riverside
o Reading:	John Street @ Rte 128
o Stoughton:	Stoughton Station
o Waltham:	Brandeis Station
o Waltham:	Wyman Street @ Rte 128
o Westwood:	Islington .

The program is more fully described in a report dated August 1980.

Currently, the MBTA is selecting a consultant to address environmental clearances and undertake engineering design. This work is scheduled to begin by the end of 1982.

Capital grant funds are available for design of all sites, with the exception of Riverside; land acquisition at Beverly, West Concord, and Fairmount; and, construction of some low-cost improvements, and expansion of parking facilities at Natick and Fairmount. Advancement of work at Fairmount is under review as it relates to diverting commuter rail service away from this station to the Providence Main Line upon completion of the MBTA's Southwest Corridor Project.

North Station Improvement Project

The North Station area is a major transportation center with an Orange Line Station, a Green Line Station and the terminus of Boston's North Side Commuter Rail Lines. With the decline of the commuter rail system over the years, the North Station Terminal has deteriorated.

The tracks have been reduced in number and trunkated several hundred feet away from the passenger lobby. The Green Line elevated structure, which was built in 1911-12, is seen as an ablighing influence on surrounding property. Through the North Station Improvements Project, the MBTA is moving ahead to upgrade its commuter rail facilities and relocate the Green Line to encourage proposed development.

The Phase I developments consist of an 800,000 square foot General Services Administration (GSA) Federal Office Building, a 16,000 seat sports arena, a new commercial development, parking garage, and road improvements. The MBTA's North Station Improvements Project is being developed in conjunction with the BRA's Renewal Plan.

The Boston Redevelopment Authority is advancing a North Station Urban Renewal Plan. The plan, which addresses a 58-acre site bounded by Causeway Street, Lomasney Way, Martha Way, the Charles River, and Accolon Way, calls for the construction of commercial developments, a sports arena, hotel, apartments, condominiums, and transportation improvements.

In August of 1982, the MBTA completed a Draft Environmental Impact Statement and a Green Line North Station Relocation Evaluation Report. In these reports, the MBTA has addressed a series of options including renovation of the existing elevated structure, construction of a new elevated structure behind the Boston Garden and construction of a subway under the Urban Renewal site.

A preferred alternatives report is presently being drafted and a consultant is being selected to initiate preliminary design of the favored option.

The commuter rail improvements include extension of the tracks to accommodate longer trains, a modern passenger lobby, improvements to the drawbridge crossing the Charles River, a new trainmen's tower, signals, and switches, and a possible subway connection between the commuter rail and Orange Line lobbies. These improvements are being addressed in a supplement to the North Station Draft EIS.

Green Line Northwest: Lechmere to Tufts

This project consists of two components: Lechmere Station Relocation and Green Line Extension from Lechmere to Tufts.

The City of Cambridge is actively pursuing development in the Lechmere Station area under its Riverfront Development Project. The MBTA's Project Staff is working closely with the City to bring about relocation of the Lechmere Station from its existing site on the south side of McGrath Highway to a location on the north side of the highway.

The MBTA is now initiating the consultant selection process for preliminary engineering design.

Forest Hills to Needham Project

The construction of the Orange Line Southwest Corridor Project necessitated discontinuance of commuter rail service through West Roxbury, Roslindale,

and Needham. Currently, service to this area is provided by express buses to the Boston Central Business District and local buses to Forest Hills.

Historically, there have been three options for providing transit service to this corridor: Extension of the Orange Line beyond Forest Hills, Upgraded Commuter Rail Service and Express Bus.

The Commuter Rail Restoration and Express Bus Options are being analyzed in conjunction with improved local bus service. The Commuter Rail Restoration consists of restoring the former single track rail line between Forest Hills and Needham Heights with improvements to the eight stations which were in service prior to closing of the line. A second track with associated switches would also be provided in the vicinity of Forest Hills to enable inbound and outbound trains to pass.

The Express Bus Option basically provides for continuation of the existing express bus services from Needham Center and Roslindale to the Boston Central Business District.

The study of these alternatives is scheduled for completion in the first quarter of 1983.

Replacement/Transit Improvement Project

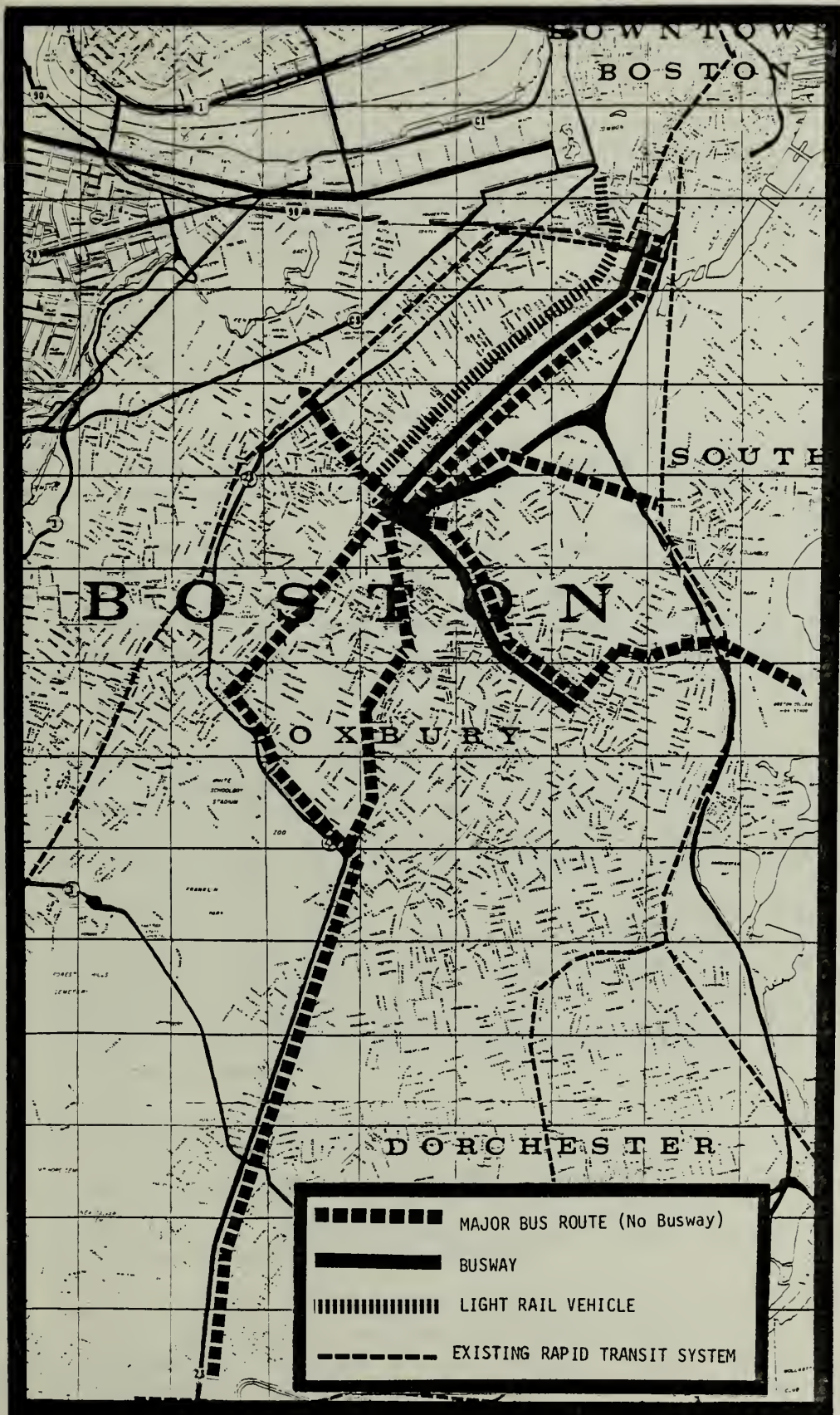
With the relocation of the Orange Line facility from Washington Street to the new Southwest Corridor, transit service to several neighborhoods will be reduced. Additionally, moving the existing Orange Line Station at Dudley away from the Roxbury/Dorchester/Mattapan community will impact service to those areas. These service changes, which were identified in the development of the Southwest Corridor Project, are being addressed through the Replacement/Transit Improvement Study.

A feasibility study completed in 1978 addressed and eliminated many proposed solutions to the areas transit needs. Among these were rapid transit service and rail service on the Midlands rail right of way from Mattapan to South Station. Subsequent discussion with the Urban Mass Transportation Administration culminated in agreement to further investigate buses in mixed traffic, busways, and light rail service.

In 1981, Federal policy prohibiting investigation of new rail lines further limited the options for study.

Currently under consideration are major bus routes between Mattapan and the Relocated Orange Line; Circumferential Busways in the Columbia Point/Ruggles Station Corridor; and, Busways between Dudley Square and the Boston Central Business District.

The MBTA is also pursuing further analysis of light rail service from Dudley Station into the Green Line subway via the abandoned Tremont Street Tunnel and Boylston Station. UMTA is currently permitting minimal analysis of this option in response to a Congressional mandate but has indicated a reluctance to permit a full analysis due to the conflict with the Federal Administration's policy against investing in new rail lines. The minimal analysis of the Dudley to Boylston Green Line option is near completion.





LEGAL AND LEGISLATIVE MATTERS

CHAPTER X

The MBTA Law Department is comprised of twenty attorneys and support staff under the direction of the General Counsel. The functions of the Law Department employees can best be described in terms of the principal categories of disputes that arise out of MBTA operations, financing and the development of new and improved facilities.

Approximately half of the staff devotes its time to the processing of tort related actions in which MBTA riders seek monetary damages for personal injuries and property damage.

Several MBTA staff lawyers concentrate their efforts on assisting the MBTA Construction Department in the successful implementation of the MBTA's many new construction and facility rehabilitation projects. Depending on the circumstances of the particular project, the legal staff may be required to perform one or more of the following tasks: land takings by eminent domain; the negotiation of land acquisition agreements; the defense of land damage lawsuits; the negotiation of lease and license agreements; the review of federal grant contracts and MBTA construction contracts; the negotiation of settlements and the prosecution and defense of disputes between the MBTA and its contractors and consulting engineers and the defense of personal injury and property damage claims and lawsuits arising out of construction.

Other members of the Law Department staff assist the MBTA Department of Real Estate Management in the negotiation and drafting of real estate licenses, leases and other agreements and the MBTA Operations Directorate in the negotiation of service and operating agreements between the MBTA and private carriers, railroad organizations, municipalities and utilities.

Lawsuits arising out of labor disputes between the MBTA and its operating unions have escalated to such an extent, since the passage of Chapter 581 of the Acts of 1980, the law effectuating a reorganization of certain MBTA labor practices, that several attorneys now devote a substantial amount of time regularly to the defense of these suits. Additional details concerning the origin and number of these labor related lawsuits are set forth below and in Appendix hereto.

Legal Issues of Immediate Concern

The Need for Legislation to Clarify MBTA Financing

There are two elements relating to MBTA financing that appear to require the attention of the Legislature.

The first relates to Proposition 2 1/2. Under this statute, the State may not increase the assessments on cities and towns in the MBTA's jurisdiction in any one year by more than 2 1/2 percent of the prior year's assessment. During the past few years, the cities and towns have been assessed for 50 percent of the MBTA net cost of service, after de-

ductions for Federal aid, etc. In any given year, this amount may be increased by only 2 1/2 percent. Any additional amount would have to be funded through state aid. State aid, on the other hand, comes after the fact, and the amount is not guaranteed. Under these circumstances, there is a need to correct the statutory framework, so that the MBTA is not spending more merely on the hope that state aid will be forthcoming.

The second part of the financial problem is also related to Proposition 2 1/2. Under the provisions of Chapter 581 of the Acts of 1980, the MBTA's budget will be changed from a calendar year to a fiscal year in 1983. (1980 Mass. Acts, c. 581 s. 17, 19, 20, 21). Likewise, the State will appropriate, in advance, whatever state aid is to come to the MBTA. This will help the problem described above to some extent, but it does not take into consideration the limitation of Proposition 2 1/2 described above. The change in the fiscal arrangement contemplated by Chapter 581 will also necessitate a recognition that the state will be required to increase its appropriation in excess of the Proposition 2 1/2 limitation, for at least one year, so as to accomplish the change from "after the fact" financing to "before the fact" financing. There have been ongoing negotiations with state officials concerning the above-described financial considerations.

Lawsuits Arising Out of 1980 Management Rights Legislation

Chapter 581 of the Acts of 1980 made a fundamental change in relationships between the MBTA and its unions. (*Id.* at s. 8, amending Mass. General Laws, Chapter 161A s.19). Certain elements described as "management rights" are no longer subject to collective bargaining. (*Id.* at s. 9, amending Mass. General Laws, Chapter 161A, S). This statute has been attacked both in the state and federal courts by several of the MBTA's twenty-five operating unions. The MBTA prevailed in the federal courts in a decision rendered by the U. S. Court of Appeals. The U. S. Supreme Court has declined to review this decision, so it remains standing. There are approximately sixteen cases in Suffolk Superior Court in which MBTA unions are seeking relief from the management rights legislation relying on what they perceive to be ambiguities in the law. For a complete listing of such lawsuits, see Appendix hereto.

The Need for Legislation Placing a Monetary Limitation on MBTA Liability

For Actions in Tort

Under its enabling legislation, the MBTA is liable for negligence in relation to the operation of its transit system. In 1981 alone, 562 new lawsuits were filed and 2,720 additional claims made bringing the total number of tort lawsuits and claims pending to 7,863. While a comparison of the last five years reveals relative stability in the number of claims made and the average cost per settlement, the statistics show a steady upward trend in the number of actual lawsuits and the size of jury awards for injured plaintiffs (see Appendix hereto). It is significant to note that such inflated awards are reflective of national trends in litigation and the economic climate, as well as the particular facts of the cases.

In response to this costly litigious trend, the MBTA has for several years sought unsuccessfully from the Legislature a \$100,000 statutory limit on its liability for tort claims. There is presently no limit on the damages that a court may order the MBTA to pay. In contrast, Massachusetts cities and towns have a limit of \$100,000 on tort obligations. Large jury verdicts exert financial pressures on the cities and towns indirectly because such tort liabilities become part of the MBTA deficit which is ultimately assessed against the cities and towns comprising the MBTA district despite the \$100,000 statutory limitation on tort claims against municipalities. Several substantial jury verdicts in 1982 illustrate the comparative urgency of obtaining a statutory limit on tort liability in the present legislative session.

Federal Grants

Since 1964, the MBTA has had legal authority to obtain federal grants for mass transportation. Under statutory language in effect until 1981, the MBTA was authorized to follow federal requirements in the event of a conflict between such federal requirements and state law. Chapter 581 of the Acts of 1980 changed Section 29, so that the MBTA may no longer agree to terms and conditions in Federal grants that are inconsistent with state law. This change necessitates a careful review of each Federal grant as it is sent to the MBTA for signature.

Most of the problems relating to grant conditions have arisen because of United States Labor Department requirements often referred to as "13(c)" (49 U.S.C. 1609 (c) 1964) labor protective provisions. In addition to the Labor Department's Provisions, the United States Department of Transportation also requires, as a condition of grants, a continuation of service levels. This sometimes becomes difficult under budget restrictions imposed by Massachusetts law. The Massachusetts Supreme Judicial Court has ruled unequivocally that the MBTA may not exceed state budget limitations for purposes of complying with federal grants. (See MBTA Advisory Board vs. MBTA, 1981 Mass. Adv. SL. 403, 417 N.E. 2d 7(1981)). This area of potential conflict should be recognized by the new administration and the balancing of competing interests with respect to grant requirements carefully monitored.

The Need for a Reliable Long-Term Power Supply

The MBTA is in the process of modernizing its entire central power system by converting it from 25 to 60 cycles (Hz). This conversion program was commenced in the mid-1970's and will be completed by 1984. Such conversion is essential because of the age of the existing power substation converting equipment, which dates back to the early 1900's and is extremely unreliable. Since 25 Hz power is no longer available, it must be produced through a frequency changer installed for the MBTA in 1952, by Boston Edison Company. The conversion project includes seventeen substations located throughout the Authority's central core system. On an interim basis, these will be served by four cables which are connected to the Boston Edison Company.

In August of 1981, the Authority ceased generating power at its South Boston Power Plant because production costs of self-generation had almost doubled in comparison to that of purchased power. Several years ago, the

proposal was abandoned and power generation at this facility has ceased except for the provision of emergency back-up generation at the site.

By 1986, the MBTA will need a reliable long-term source of electricity. The MBTA has a variety of options, many of which are the subjects of extensive studies and evaluation by experts in energy management. Inasmuch as electric energy costs are a predominant item in the annual MBTA budget, the need to acquire a reliable and efficient long-term source of bulk power is of paramount importance to the MBTA.

Two alternative options are presently being pursued simultaneously by the MBTA staff. One alternative is the negotiation of long-term power purchase agreement(s), with one or more of the principal utilities, at special and more favorable rates than the standard rate filed with the Massachusetts Department of Public Utilities. The second alternative is to issue a prospectus for the private third party financing, construction and operation of a power production facility at the site of the South Boston Power Plant. This approach would have the dual advantage of transferring several of the financial and technical risks to private parties competing for MBTA energy revenues. The prospectus also has the potential for the most substantial long-term energy cost savings. The MBTA would sign a long-term electricity sales agreement to secure financing for the project and sell or lease on a long-term basis all required land at the South Boston Power Plant site. In order to secure financing, developers would look to negotiate a minimum bill agreement (as opposed to "take or pay" provisions) that would demonstrate a secure revenue stream to lenders. Developers would be expected to sign penalty provisions for plant "down time" and to quote not only a base price for electricity (e.g. 85% of Edison's avoided costs, etc.), but also to reflect certain fuel escalation formulae that would serve as a protection to the MBTA against sudden fuel price escalation, e.g. coal strike, transportation problems, etc.

REAL ESTATE PROGRAM

CHAPTER XI

The MBTA Department of Real Estate Management has recently emerged from a period of intense public scrutiny and self-examination during which time the purposes of the Department have been re-evaluated and its processes re-organized. To the extent necessary, new procedures have been developed, tested, and incorporated into regular operations. Special emphasis has been placed on increased accountability and a corresponding effort made to maintain maximum efficiency.

The Director of the Department of Real Estate Management and his staff are charged with the responsibility for acquiring interests in land, and managing and disposing of excess MBTA real estate holdings. Federal rules and guidelines require special attention, since many MBTA properties have been acquired by means of Federal grants or loans. Land can be acquired through a negotiated purchase, or by eminent domain. To the extent that Federal funds are intended to finance acquisitions, Federal laws and regulations must be followed, with respect to the establishment of a purchase price at fair market value, and, as to the relocation of any occupants.

Land management is a particularly sensitive area of the department's responsibility because of the MBTA's diverse and valuable land holdings and need to maximum MBTA income to the extent authorized by the MBTA's enabling legislation.

In response to criticisms levelled at procedures previously employed for bidding and monitoring of parking lots and garages, transit and billboard advertising contracts, concession leases, and leases of surface rights and surplus MBTA owned structures, the Department as been reorganized as follows. Several employees have been replaced or reassigned to other duties. Discretionary decision making has, for the most part, been eliminated and, to the extent possible, bidding and selection procedures have been standardized.

As a result of this reorganization, revenues are expected to increase to as much as \$3.3 million in 1983 over a low of \$2.2 million in 1980. This increase can be attributed to the rebidding and updating of rental agreements.

The Department of Real Estate Management has recently established a policy regarding billboard leasing. A pilot bid program conducted with respect to only one existing billboard located on MBTA owned land resulted in a bid of \$38,000 annually, representing a yearly increase in rent of approximately \$77,000. To the extent that MBTA management may choose to pursue further billboard leases, it would appear that an opportunity for substantial increases in revenues is presented.

Other ways of increasing revenues will be explored in 1983. The anticipated opening of the Quincy Adams Garage will provide additional revenue. In 1983, the MBTA is planning to initiate a program under which a re-evaluation of leases of railroad property will be undertaken. For purposes of comparison in this context, it should be noted that, the annual operating budget required to generate the above revenues will be \$110,000.

Land disposition is not only the most creative activity undertaken by the MBTA, it is the most potentially profitable. The Department has identified 24 sites suitable for income producing development. At each of these site, there is the opportunity to integrate simultaneously transportation facilities and private commercial development to the long-term advantage of the MBTA and the riding public. Three such sites at which action is imminent or for which proposals are pending are described in detail in the section immediately following. With respect to the sale of other excess MBTA-owned land, it is anticipated that the MBTA will continue to respond to outside expressions of interest by publicly bidding such excess land on a case by case basis.

Efforts to identify and dispose of surplus railroad property will also continue. In particular, the Department is working with Executive Office of Transportation and Construction, the Massachusetts Department of Public Works, the Federal Highway Administration, Massachusetts Turnpike Authority and U. S. Department of Transportation and other affected municipals and agencies to formulate a policy for the development and disposition of abandoned railroad rights-of-way.

Real Estate Management Issue of Immediate Concern

Relocation of MBTA Staff to New State Transportation Building

In addition to the foregoing, the staff of the Department of Real Estate Management is responsible for overseeing the office space occupied by the MBTA's executive, management, administrative and technical staff. The MBTA's principal place of business is presently 50 High Street, Boston. This building is scheduled to be demolished and a new high-rise office building to be constructed in its place. The MBTA's new home, the State Transportation Building is scheduled for occupancy in November 1983. Maintaining the MBTA's present lease and occupancy and planning the move to the new Transportation Building in Park Square has required the mutual balancing of interests, needs and persuasion with respect to the present owner of 50 High Street. Planning for the move to the new Transportation Building has already begun and the MBTA staff is presently engaged in discussions with the architect to determine the most appropriate and efficient layout of MBTA office space. Physically, the move will be a massive undertaking.

Joint Development Actions

Mishawum Rd., Woburn/Agreement for Joint Development

The MBTA intends to construct a new commuter rail passenger station and parking facilities adjacent to a 6.5 acre parcel of open space land at Mishawum Road in Woburn. In 1978, the MBTA took title by eminent domain to

approximately 6 acres of privately-owned land at the site. In 1981, the MBTA acquired by negotiated settlement from the Woburn Redevelopment Authority (WRA) the remaining 27,000+ square foot parcel needed for construction of the Mishawum Station and commuter parking. Among other things, the parties agreed to participate jointly, for a period of three years, in the commercial development of excess land at the Mishawum site not needed for the station and parking facilities.

The WRA is actively seeking proposals from developers. One prospective developer has recently presented to the MBTA and WRA for review and consideration for a plan whereby an office building and surface parking for its tenants would be constructed as well as additional surface parking for commuters that would be compatible with the proposed Mishawum commuter railroad station. The MBTA has supported this proposal in principle, subject to final negotiations and approvals, in view of the potential for maintenance cost savings and its other substantial transportation benefits.

Rte 128 Railroad Station, Dedham/Westwood, Request for Proposals

On November 10, 1982, the MBTA issued a request for proposals for the development of the 6.1 acre site at Rte 128. The MBTA acquired the land in 1973 as part of the acquisition of former Penn Central Railroad property. The MBTA seeks to lease the land for development, under an agreement that would include a minimum annual lease payment of \$500,000, and require the developer to provide and maintain at least 750 parking spaces for commuters. Proposals are due on December 20, 1982. The MBTA staff anticipates a good response. It is intended that the schedule for review and evaluation of proposals will culminate in the selection of a developer, on or about, February 15, 1983.

Development of Proposals for South Station Transportation Center

The MBTA is in the process of preparing a solicitation for the joint development of the South Station Transportation Center. Certain areas at the site have been set aside for the public transportation uses of AMTRAK and the MBTA commuter railroad lines, a bus terminal, a connection to Red Line rapid transit service and parking. Nevertheless, the remaining land and air space presents an exceptional opportunity for private income producing joint development. The third, fourth, and fifth floors of the historically recognized South Station Headhouse are available. Retail commercial space will be constructed on the first floor, mezzanine and second floor. Moreover, the entire so-called "West Wing" space is available for private lease on a long-term basis. The restoration and transformation of the landmark South Station Headhouse building into a regional comprehensive transportation, retail and business center promises to be one of the most exciting and rewarding of MBTA development opportunities.

Auditorium Station/Potential Site for Air Rights Development

The MBTA owns vacant land on Baylston Street at Auditorium Station. The MBTA recently constructed a power substation at the site. Other parties, including the City of Boston and the Institute of Contemporary Art (ICA), own land and buildings at the Auditorium site. It is clear that development of this property could be among the most profitable for the MBTA because the

land was not acquired with federal funds and, therefore, any income would accrue solely to the MBTA. The proposed expansion of Hines Auditorium nearby would tend to reinforce and contribute to its development potential. Preliminary discussions between the MBTA and the ICA have taken place and further evaluation of the site between and among the MBTA, the City and the ICA will be pursued in 1983.

The Designation of a State or Municipal Agency to Maintain SWC Parkland

The removal of the Penn Central Embankment and the construction of the Southwest Corridor Project, in a partially depressed tunnel, has presented the MBTA with the unique opportunity for the construction of surface improvements linking the community to the north and south of the project and creating an interconnected network of parkland, bike paths, and foot paths by which free pedestrian access in the Southwest Corridor will be facilitated. The parkland area is intended to be held in trust for the benefit of the public. Maintenance of the parkland has been a longstanding concern. Although the parkland landscaping features have been designed so as to incorporate standardized vandal resistant improvements, an appropriate agency must be designated and funds appropriated for the purpose of longterm maintenance. Two state agencies have been suggested: the Department of Environmental Management and the Metropolitan District Commission. The City of Boston is another possibility. The designation of a responsible agency now is important so that the agency can participate in final design of the improvements and develop its own internal maintenance program prior to the scheduled completion of construction.

Identification of Southwest Corridor Development Parcels

The nature of the Southwest Corridor Project is such that, upon its completion, parcels of land suitable for commercial and residential development will be created by the reconfiguration of streets. In order to identify such development parcels to evaluate their marketability, and develop a marketing strategy, the MBTA has retained the services of a consultant, who will be managed by MBTA staff experienced in real estate matters and familiar with the needs and potential of the communities through which the Southwest Corridor passes.

APPENDICES

ESTIMATED

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

ASSESSABLE COST OF SERVICE FOR THE YEAR ENDED DECEMBER 31, 1981
AND THE IMPACT ON THE 1983 FISCAL TAX RATES

<i>Cities and Towns</i>	<i>Net Assessable Cost of Service *</i>	<i>Assessed Valuations as of 1/1/81</i>	<i>1983 Tax Rate Fiscal Year 7/1/82-6/30/83</i>	<i>Cities and Towns</i>	<i>Net Assessable Cost of Service *</i>	<i>Assessed Valuations as of 1/1/81</i>	<i>1983 Tax Rate Fiscal Year 7/1/82-6/30/83</i>
Arlington	\$2,279,100	\$363,356,700	\$6.27	Natick	465,200	197,457,500	2.36
Ashland	144,100	130,577,160	1.10	Needham	450,800	335,366,500	1.34
Bedford	204,100	415,200,150	.49	Newton	3,258,900	415,146,924	7.86
Belmont	1,113,100	720,087,600	1.55	Norfolk	71,600	113,288,628	.63
Beverly	577,100	246,484,470	2.34	North Reading	194,200	76,321,015	2.54
Boston	39,747,800	1,902,000,000	20.90	Norwell	132,300	115,902,355	1.14
Braintree	725,800	571,244,273	1.27	Norwood	534,300	338,362,100	1.58
Brookline	3,599,200	467,710,600	7.70	Peabody	715,600	354,962,525	2.02
Burlington	403,900	286,511,120	1.41	Pembroke	184,500	226,051,643	.82
Cambridge	5,393,400	347,054,800	15.54	Quincy	2,369,800	275,538,415	8.60
Canton	259,600	205,446,200	1.26	Randolph	545,900	161,717,803	3.38
Chelsea	1,023,200	59,118,750	17.31	Reading	397,300	295,837,185	1.34
Cohasset	94,500	102,589,740	.92	Revere	2,038,300	100,455,850	20.29
Concord	217,200	383,133,677	.57	Rockland	221,300	77,488,013	2.86
Danvers	406,200	562,871,570	.72	Salem	623,400	121,922,800	5.11
Dedham	502,700	271,907,600	1.85	Saugus	571,300	246,005,275	2.32
Dover	72,000	149,107,390	.48	Scituate	236,800	127,740,050	1.85
Duxbury	107,200	233,668,013	.46	Sharon	229,000	305,781,890	.75
Everett	1,591,000	215,635,625	7.38	Sherborn	53,800	96,769,750	.56
Framingham	837,500	596,590,040	1.40	Somerville	3,581,200	136,179,422	26.30
Hamilton	113,500	115,249,952	.99	Stoneham	346,800	279,100,100	1.24
Hanover	153,400	223,850,300	.69	Sudbury	200,800	439,814,838	.46
Hingham	324,500	179,201,760	1.81	Swampscott	292,600	122,281,108	2.39
Holbrook	244,700	63,653,640	3.84	Topsfield	79,800	107,209,915	.75
Hull	144,400	107,120,050	1.35	Wakefield	455,600	85,616,290	5.32
Lexington	576,500	274,026,500	2.10	Walpole	284,700	156,721,928	1.82
Lincoln	138,000	213,848,984	.65	Waltham	900,400	557,318,400	1.62
Lynn	1,453,100	272,872,172	5.33	Watertown	1,363,500	600,488,800	2.27
Lynnfield	174,900	350,309,815	.50	Wayland	205,800	230,705,328	.89
Malden	2,184,900	122,187,550	17.88	Wellesley	420,700	826,999,743	.51
Manchester	70,800	134,268,200	.53	Wenham	58,000	83,095,959	.70
Marblehead	369,300	215,947,914	1.71	Weston	163,900	210,409,574	.78
Marshfield	230,400	133,020,491	1.73	Westwood	242,500	409,529,220	.59
Maynard	139,600	176,669,365	.79	Weymouth	1,033,800	373,795,350	2.77
Medfield	131,700	235,338,600	.56	Wilmington	247,200	157,627,520	1.57
Medford	2,690,900	871,646,960	3.09	Winchester	390,000	211,325,700	1.85
Melrose	635,800	242,219,650	2.63	Winthrop	429,500	217,173,300	1.98
Middleton	60,800	76,564,000	.80	Woburn	642,800	562,485,973	1.14
Millis	85,300	61,956,112	1.38				
Milton	1,035,200	79,736,543	12.99				
Nahant	109,700	102,704,000	1.07				
				Total			
				Assessment	<u>\$95,000,000</u>		

* 79 Cities and Towns capped at \$95.0M under Chapter 191 Acts of 1982.

MBTA SYSTEMWIDE FARE STRUCTURE

RAPID TRANSIT ZONE FARE STRUCTURE

Adult Fare

Orange Line	
All Stations	\$.60 (1 token)
Blue Line	
All Stations	\$.60 (1 token)
Red Line	
Harvard - Ashmont	\$.60 (Zone 1)
Harvard - Wollaston	\$.60 (Zone 1)
Harvard - Quincy Center	\$.90 (Zone 2)
Harvard - Braintree	\$1.20 (Zone 3)

Rapid Transit - 10¢

Senior Citizen Fare

Orange Line Stations	10¢
Blue Line Stations	10¢
Red Line Stations	10¢
Mattapan High Speed Line	10¢
Green Line Stations	10¢
Central Subway Stations	10¢



MBTA GREEN LINE FARES
(Effective August 1, 1981)

Arborway, Beacon Street, and Commonwealth Avenue Lines

Adult Surface Fare (Inbound)*. \$.75

Handicapped Fare (Inbound)*

Between the hours of 7:00 and 9:00 a.m. and
4:00 - 6:00 p.m., weekdays only. \$.75

At all other times, handicapped pay. \$.10

Senior Citizen Fare (Inbound)*

At all times, Senior Citizens with MBTA I.D. Card pay. . . . \$.10

Blind Persons (All Times). FREE

Children's Fare (Inbound)*

Children 11 years old and under (all times). \$.35

Student's Fare (Inbound)*

Students with I.D. badge only before 5:00 p.m. on days when
school is in session, student transfers no longer accepted . \$.35

Riverside (Highland Branch)

Adult Surface Fare (Inbound)*

Zone 1: Reservoir To Fenway. \$.75

Zone 3: Riverside to Chestnut Hill \$.1.50

Handicapped Fare (Inbound)*

Same as adult fare between the hours of 7:00 and 9:00 a.m.
and 4:00 and 6:00 p.m., weekdays only. Handicapped persons
with MBTA I.D. Card ride for 10¢ at all other times.

Senior Citizens Fare (Inbound)*

At all times, Senior Citizens with MBTA I.D. Card pay. . . . \$.10

Blind Persons (All Times). FREE

Children's Fare (Inbound)*

Children 11 years old and under (All Times):

Zone 1: Reservoir to Fenway. \$.35

Zone 2: Riverside to Chestnut Hill \$.75

*Double surface fare paid inbound surface only; no fare
collected outbound surface.

BUS FARE ZONE STRUCTURE

<u>Zone</u>	<u>Route Miles</u>	<u>Fare</u>
1	0-6	\$.50
2	6-9	\$.75
3	9-12	\$1.00
4	12-15	\$1.25
5	15 +	\$1.50

Base Fare - \$.50, good for all routes that are less than 6 miles and for the first 6-mile zone on routes longer than 6 miles.

Zone Fares - Additional \$.25 for each 3-mile increment.

Express Premium - Additional \$.25 for express bus service.

Maximum Fare - \$1.50 including express bus premium.

Senior Citizen:

Local Bus and Trackless Trolley - 10¢

Zoned Bus - One-half the Adult fare beyond a local trip.

<u>Zone</u>	<u>Adult</u>	<u>Senior Citizen</u>
1 (Local)	\$.50	\$.10
2	\$.75	\$.35
3	\$1.00	\$.50
4	\$1.25	\$.60
5	\$1.50	\$.75
6	\$1.75	\$.85

Express Bus - One-half the Adult fare

<u>Zone</u>	<u>Adult</u>	<u>Senior Citizen</u>
1	\$1.00	\$.50
2	\$1.25	\$.60
3	\$1.50	\$.75

Commuter Rail - One-half the Adult fare

Special Needs Fare Structure

Special Needs passengers pay full Adult fare on all modes during peak hours (i.e., 7:00 a.m. - 9:00 a.m. and 4:00 p.m. - 6:00 p.m., Monday through Friday) and the Senior Citizen fare all other times.

MONTHLY PREPAID PASSES VALID

There are six different (T) Passes available, each offering a month's worth of unlimited transportation. An MBTA Pass can save you money on transportation, auto insurance, entertainment, and special offers.

A - \$.50

\$.50 SURFACE VEHICLE ONLY \$18.00

- o Not valid on any Rapid Transit or Express Bus Service.
- o Not valid for any subway portion of the Green Line.
- o VALID as follows during attended hours of operations:
 - o Valid for the Riverside/Chestnut Hill portion of the Riverside Line to Reservoir--Fenway stations, plus \$.50 cash fare inbound.
 - o All local bus and trackless trolley routes that charge only a \$.50 fare or one \$.50 fare on a local suburban bus route, balance in cash.
 - o All surface street cars as follows: Boston College - Blandford Street; Cleveland Circle - St. Mary's; Reservoir - Fenway, and Arborway - Northeastern University.
 - o A complete ride into subway from Boston College, Cleveland Circle, Reservoir, and Arborway, INBOUND ONLY.
 - o Mattapan High-Speed Line.

B - \$.60

\$.60 RAPID TRANSIT (MATTAPAN HIGH-SPEED LINE)
AND STREETCAR \$22.00

- o Not valid on any Express Bus, local suburban bus, or trackless trolley.
- o Not valid at any Rapid Transit station with a regular fare of more than \$.60.
- o VALID as follows during attended hours of operation:
 - o All \$.60 Rapid Transit stations including all stations on the Blue Line, Orange Line, Red Line (except Quincy Center, Quincy Adams, and Braintree), and Green Line (except Chestnut Hill to Riverside).
 - o Mattapan High-Speed Line.

C - \$1.00

\$1.00 RAPID TRANSIT, STREETCAR, BUS AND EXPRESS BUS \$36.00

- o Not valid on any suburban bus route that enters or leaves Zone 2 or 3.
- o VALID as follows during attend hours of operation:
 - o All stations on the Blue, Orange, Green, and Red Line (except Quincy Adams and Braintree).
 - o All \$1.00 Express Bus routes.
 - o All \$.50 local bus and trackless trolley routes in Zone 1 that also connect with a \$.60 Rapid Transit or Green Line station.

D - \$1.25

\$1.25 RAPID TRANSIT, STREETCAR, BUS, EXPRESS BUS, AND
ZONE 1 COMMUTER RAIL \$40.00

- o Not valid on a suburban bus route that enters or leaves Quincy Center, Quincy Adams, and Braintree on the Red Line; and Riverside to Chestnut Hill on the Green Line.
- o VALID as follows during attended hours of operation:
 - o All stations on the Blue, Orange, Green, and Red Lines.
 - o All \$.75 bus fare connecting with a \$.60 Rapid Transit or Green Line station.
 - o All \$.50 local bus fares, except to or from Zone 2 or 3 Rapid Transit stations.
 - o All \$1.25 or less Express Bus routes.
 - o Valid on Commuter Rail trains from North or South Stations to any Zone 1 station.

E - \$1.50

\$1.50 RAPID TRANSIT, STREETCAR, BUS, EXPRESS BUS, AND
ZONE 2 COMMUTER RAIL \$48.00

- o Not valid on a \$.50 suburban bus route that enters or leaves Quincy Adams and Braintree on the Red Line.
- o VALID as follows during attended hours of operation:
 - o All stations on the Blue, Orange, Green, and Red Lines.
 - o All \$.50 local bus fares (except when entering or leaving Zone 3).
 - o All \$1.00 bus fare connecting with a \$.60 Rapid Transit or Green Line stations.
 - o Valid on Commuter Rail trains from North or South Stations to any Zone 1 or Zone 2 stations.

F - \$1.75

\$1.75 ALL MBTA SERVICES AND ZONE 3 COMMUTER RAIL \$56.00

- o VALID as follows during attended hours of operation:
 - o All MBTA services or any combination of services, regardless of fares.
 - o Valid on Commuter Rail trains from North or South Stations to any Zone 1, Zone 2, or Zone 3 stations.

The last five working days of each month, (T) passes are available to the general public at many convenient locations. Participating colleges and universities also sell (T) passes to their students.

NEW COMMUTER RAIL FARES

I. Between all Zones and Boston, Back Bay, and Porter Square, Cambridge (one-way fares, 12-ride books and monthly passes).

ZONE	ONE-WAY FARE	HALF FARE	12-RIDE BOOK	MONTHLY PASS	FAMILY ROUND- TRIP FARE
1	1.25	.60	13.75	40.00	5.00
2	1.50	.75	16.50	48.00	6.00
3	1.75	.85	19.25	56.00	7.00
4	2.00	1.00	22.00	65.00	8.00
5	2.25	1.10	24.75	74.00	9.00
6	2.50	1.25	27.50	79.00	10.00
7	2.75	1.35	30.25	84.00	11.00
8	3.00	1.50	33.00	89.00	12.00
9	3.50	1.75	35.75	94.00	13.00
10	4.00	2.00	38.50	99.00	14.00
11	4.50	2.25	41.25	104.00	15.00

Reminder: Effective September 1, 1980, Porter Square, Cambridge, becomes a Terminal station and will no longer be an Intermediate station.

II. Between intermediate Zones - between any two stations except to or via Boston, Back Bay, or Porter Square, Cambridge. (Single ride tickets and 46-ride Intermediate Zone monthly ticket.)

TRAVEL WITHIN NUMBER OF ZONES	NEW ONE- WAY FARE	46-RIDE INTERMEDIATE HALF-FARE	CALENDAR MONTHLY	FAMILY ROUND- TRIP FARE
1	.75	.35	24.00	NA
2	1.00	.50	30.00	NA
3	1.25	.60	36.00	4.00
4	1.50	.75	42.00	5.00
5	1.75	.85	48.00	6.00
6	2.00	1.00	54.00	7.00
7	2.25	1.10	60.00	8.00
8	2.50	1.25	66.00	9.00
9	2.75	1.35	72.00	10.00
10	3.00	1.50	78.00	11.00
11	3.25	1.60	84.00	12.00

COMMUTER RAIL STATION INDEX
AND MONTHLY PASS FARES

A Complete List of New Stations, Zones, and Fares

*Indicates planned station not yet in service

<u>MBTA PASS</u> <u>DESIGNATION</u>			<u>MONTHLY</u> <u>PASS</u>
"D"	<u>ZONE 1</u>	\$1.25	\$ 40
	Back Bay	Newtonville	
	Belmont	Waverley (Belmont)	
	Cambridge-Porter Square	Wedgemere (Winchester)	
	Fairmount (Hyde Park)	West Medford	
	Melrose-Cedar Park	Winchester	
	Melrose Highlands	Wyoming Hill (Melrose)	
"E"	<u>ZONE 2</u>	\$1.50	\$ 48
	Auburndale (Newton)	Readville	
	Endicott (Dedham)	Riverworks	
	Greenwood (Wakefield)	Roberts-Brandeis (Waltham)	
	Lechmere (Woburn)	Route 128 - Dedham	
	Lynn-Central Square	Wakefield	
	Reading	Waltham	
		West Newton	
"F"	<u>ZONE 3</u>	\$1.75	\$ 56
	Canton Center	Norwood Central	
	Canton Junction	Norwood Depot	
	Hastings (Weston)	Salem	
	Islington (Westwood)	Swampscott	
	Kendal Green (Weston)	Wellesley Farms	
	*Mishawum Park - 128	Wellesley Hills	
	North Wilmington	Wellesley Square	
		Wilmington	
"G"	<u>ZONE 4</u>	\$2.00	\$ 65
	Ballardvale (Andover)	Plimptonville (Walpole)	
	Beverly Depot	Sharon	
	Lincoln	Stoughton	
	Monteriserrat	Walpole	
	Natick	Windsor Gardens (Norwood)	
"H"	<u>ZONE 5</u>	\$2.25	\$ 74
	Andover	North Beverly	
	Beverly Farms	North Billerica	
	Concord	Norfolk	
	Framingham	Prides Crossing (Beverly)	
	Hamilton-Wenham	West Concord	
"J"	<u>ZONE 6</u>	\$2.50	\$ 79
	Franklin	Manchester-by-the-Sea	
	Ipswich	Mansfield	
	Lawrence	South Acton	
	Lowell		
"K"	<u>ZONE 7</u>	\$2.75	\$ 84
	Attleboro	Harbor (Gloucester)	
	Bradford (Haverhill)	Haverhill	
	Gloucester	Littleton-495	
"L"	<u>ZONE 8</u>	\$3.00	\$ 89
	Ayer	Shirley	
	Rockport	*South Attleboro	
	Rosemont-495 (Haverhill)		
"M"	<u>ZONE 9</u>	\$3.50	\$ 94
	Fitchburg		
	North Leominster		
"P"	<u>ZONE 11</u>	\$4.50	\$104
	Gardner		

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Michael Joseph Connolly

Chap. 581

Secretary of the Commonwealth

Chap. 581. AN ACT RELATIVE TO THE STRUCTURE OF
THE MASSACHUSETTS BAY TRANSPORTATION
AUTHORITY.

Be it enacted, etc., as follows:

SECTION 1. Section ninety-one A of chapter one hundred and sixty-one of the General Laws is hereby repealed.

SECTION 2. Section 3 of chapter 161A of the General Laws is hereby amended by striking out paragraph (d), as most recently amended by section 6 of chapter 1140 of the acts of 1973, and inserting in place thereof the following paragraph:-

(d) To appoint and employ officers, including a general manager, agents, and employees to serve at the pleasure of the directors, except as may otherwise be provided in collective bargaining agreements, and to fix their compensation and conditions of employment; provided, however, the authority may bind itself by contract to employ not more than five senior officers but no such contract shall be for a period of more than five years. The advisory board shall approve the appointment of a general manager.

The authority shall annually, on or before January first, submit a schedule of salaries of all its employees and any proposed increases therein to the secretary of administration for his review. Said secretary may make recommendations to the authority on said salary structure and shall advise the authority of the prevailing rates that the commonwealth pays for similar services.

SECTION 3. Said chapter 161A is hereby further amended by striking out section 6, as most recently amended by section 10 of said chapter 1140, and inserting in place thereof the following section:-

Section 6. The authority shall be managed by a board of seven directors, hereinafter in this chapter called the directors, one of whom shall be the secretary, who shall be the chairman and shall not be compensated therefor, six of whom shall be appointed by the governor and who shall serve coterminous with the governor, one with the approval of the advisory board, one with the approval of the fourteen cities and towns, and one with the approval of the sixty-four cities and towns. The approval of the fourteen cities and towns shall be determined by a majority vote of their mayors, or city managers in the cases of Plan D or Plan E cities, and chairmen of the boards of selectmen and town managers in towns having a town council form of government with the vote of each city and town counted as on said advisory board; provided that fifty per cent or more of the total votes as

set forth in said section seven is represented at such meeting. The approval of the advisory board and of the sixty-four cities and towns shall be determined by a majority vote of their mayors or city managers and chairmen of selectmen or town managers present and voting thereon with the vote of each city and town counted as on said advisory board; provided that fifty per cent or more of the total votes as set forth in said section seven is represented at such meeting. One of the appointees of the governor shall be experienced in transportation, one a member of organized labor who shall be a member of a national or international labor organization, and one experienced in administration and finance. No more than four of the seven directors shall be members of the same political party. Two of the appointees of the governor shall not be residents of the area constituting the authority.

Any director except the chairman may be removed for cause by the governor and any vacancy in the office of a director shall be filled, by appointment of the governor with the approval applicable to such under the provisions of section three of chapter twelve shall not apply to said board of directors. The six directors appointed by the governor shall receive a salary of seven thousand five hundred dollars. A majority of the directors shall constitute a quorum, but a majority vote of the entire membership of the board of directors shall be required to take any particular action.

SECTION 4. Said chapter 161A is hereby further amended by inserting after section 7 the following section:-

Section 7A. A designee of the governor shall be a member of the advisory board, and shall have the same number of votes on said board as the city or town with the greatest number of votes on said board; provided, however, that the designee shall not be considered a voting member on the approval of any appointment to the board of directors, or the position of general manager; provided, further, that in any case where the designee of the governor, and said city or town with the greatest number of votes shall vote the same, their combined vote shall equal the vote of said city or town; and provided, further, that an affirmative vote of at least one-third of the cities and towns present and voting shall be required for approval of any action or appointment.

The number of votes of such designee shall be in addition to the total number of votes of each city and town as determined by the authority, based upon the most recent annual assessment.

SECTION 5. Said chapter 161A is hereby further amended by inserting after section 11 the following section:-

Section 11A. Any of the sixty-four cities and towns may for the purpose of providing local bus service enter into agreements with any person lawfully authorized to operate any motor bus on any public way therein for the carrying of passengers for hire.

Said city or town shall have the same powers and duties in respect to such private bus carriers as are provided by law for the department of public utilities, except as to safety of equip-

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ment and operations, schedules, and routes not being, however, considered safety of equipment and operations for purposes of this paragraph; and provided that the authority shall be notified of the establishment of any such contract local service, but shall not have control or jurisdiction over said service.

SECTION 6. The third paragraph of section 12 of said chapter 161A, as appearing in section 18 of chapter 563 of the acts of 1964, is hereby amended by adding the following sentence:- The authority shall consult with the finance advisory board established by section ninety-seven of chapter six prior to the sale of any such notes as to the timing and terms thereof.

SECTION 7. Subsection (a) of section 12A of said chapter 161A, as appearing in section 15 of chapter 4 of the acts of 1976, is hereby amended by adding the following sentence:- The authority shall consult with the finance advisory board established by section ninety-seven of chapter six prior to the sale of any such notes as to the timing and terms thereof.

SECTION 8. Section 19 of said chapter 161A is hereby amended by striking out the first sentence, as appearing in section 18 of chapter 563 of the acts of 1964, and inserting in place thereof the following sentences:- The directors shall have authority to bargain collectively with labor organizations representing employees of the authority and to enter into agreements, with such organizations relative to wages, salaries, hours, working conditions, health benefits, pensions and retirement allowances of such employees; provided, however, that the directors shall have no authority to bargain collectively and shall have no authority to enter into collective bargaining agreements with respect to matters of inherent management right which shall include the right:

(i) to direct, appoint, employ, assign and promote officers, agents and employees and to determine the standards therefor.

(ii) (A) to discharge and terminate employees subject to the provisions of such clauses (B) and (C).

(B) No action set forth in (A) shall be sustained if, in a proceeding invoked in accordance with the provisions of such clause (C), the employee shall establish by a preponderance of the evidence that it was based upon race, color, religion, sex, age, national origin, handicapping condition, marital status, or political affiliation or activities or union activities or union organizing of the employees; a reprisal against the employee for disclosure of information by an employee which the employee reasonably believes evidences a violation of any law, rule or regulation or mismanagement, a gross waste of funds, or abuse

of authority; a reprisal against any employee for the refusal of any person to engage in political activity.

(C) The parties may include in any written agreement a grievance procedure culminating in final and binding arbitration which may be invoked in the event any employee of the authority is aggrieved by any action taken under such clause (A).

(iii) to plan and determine the levels of service provided by the authority.

(iv) to direct, supervise, control, and evaluate the departments, units, and programs of the authority; to classify the various positions of the authority and ascribe duties and standards of productivity therefor.

(v) to develop and determine levels of staffing and training.

(vi) to determine whether goods or services should be made, leased, contracted for, or purchased on either a temporary or permanent basis.

(vii) to assign and apportion overtime.

(viii) to hire part-time employees.

The authority is hereby prohibited from bargaining collectively or entering into any agreement to make pension benefit payments to its employees that are determined in a manner that includes the amount of overtime earnings of said employees.

The authority is hereby prohibited from bargaining collectively or entering into a contract which provides for automatic cost-of-living salary adjustments which are based on changes in the Consumer Price Index or other similar adjustments unless specifically authorized by law.

SECTION 9. Section 19F of said chapter 161A, as appearing in section 2 of chapter 405 of the acts of 1978, is hereby amended by striking out paragraph 8 and inserting in place thereof the following paragraph:-

8. Such other factors, not confined to the foregoing, which are normally or traditionally taken into consideration in the determination of wages, hours and conditions of employment through voluntary collective bargaining, mediation, fact-finding, arbitration or otherwise between parties, in the public service of the commonwealth, and which are not precluded from bargaining under section nineteen.

SECTION 10. The second paragraph of section 23 of said chapter 161A, as appearing in section 18 of chapter 563 of the acts of 1964, is hereby amended by adding the following sentence:- No bonds of the authority shall be sold by the authority unless prior to such sale the authority shall have consulted with the finance advisory board established by section ninety-seven of chapter six as to the timing and terms thereof.

SECTION 11. The fourth paragraph of said section 23 of said chapter 161A, as amended by section 3 of chapter 650 of the acts of 1965, is hereby further amended by striking out the last sentence and inserting in place thereof the following sentence:- Subject to the requirement of consultation with the finance advisory board established by section ninety-seven of chapter six, the authority may sell such bonds in such manner, either at

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public or private sale, and for such price as it may determine to be for the best interests of the authority.

SECTION 12. Said chapter 161A is hereby further amended by striking out section 29, as appearing in section 18 of chapter 563 of the acts of 1964, and inserting in place thereof the following section:-

Section 29. The authority is authorized and directed from time to time to take all necessary action to secure any federal assistance which is or may become available to the commonwealth or any of its political subdivisions, for any of the purposes of this chapter. If any federal law, administrative regulations or practice requires any action relating to such federal assistance to be taken by any department or instrumentality of the commonwealth other than the authority, such other department or instrumentality is authorized and directed to take all such action, including without limitation filing applications for assistance, supervising the expenditure of federal grants or loans to the foregoing, and the authority is hereby authorized and directed to take all actions which are not inconsistent with state law and which are necessary to permit such other department or instrumentality to comply with federal requirements. If the provisions of any federal law, administrative regulation, or practice governing federal assistance for the purposes of this chapter are inconsistent with any provisions of this chapter to the extent that the commonwealth or its political subdivisions are prohibited or potentially prohibited from receiving such assistance, the chairman of the authority shall, within thirty days after the federal government has notified him that an inconsistency may exist, notify the governor, and the clerks of the house and senate of such inconsistency.

SECTION 13. Chapter 151 of the acts of 1979 is hereby amended by striking out section 8A and inserting in place thereof the following two sections:-

Section 8A. The budget of the Massachusetts Bay Transportation Authority shall not be greater than one hundred and four per cent of the budget approved for said authority for the preceding fiscal year, provided, however, that said budget may be increased by those amounts approved in accordance with section eight B.

Section 8B. The Massachusetts Bay Transportation Authority may increase the budget limit imposed by section eight A by the approval of a specified amount by a two-thirds vote of the members of the advisory board present and voting.

SECTION 14. Section 16 of said chapter 151 is amended by adding the following at the end thereof:-

; provided, however, that sections eight A and eight B shall not expire until December thirty-first, nineteen hundred and eighty-three, and the provisions of section two, and sections 15A through 15E inclusive, insofar as applicable to the provisions of section eight A, shall not expire until December thirty-first, nineteen hundred and eighty-three.

SECTION 15. The directors of the authority, and each of the bargaining units within the authority, are hereby directed to establish for each said bargaining unit a productivity and conduct committee to be composed of three members of management chosen by the directors and three members of the respective bargaining unit, to be chosen by the officers thereof.

Said committees shall recommend the establishment of standards of productivity, and conduct of employees for each respective bargaining unit no later than June thirtieth, nineteen hundred and eighty-one.

The directors shall review, revise and implement said standards no later than thirty days after receiving such recommendations, and shall file a report with the clerk of the house of representatives on each set of standards as they are implemented.

SECTION 16. The authority is hereby authorized and directed to develop, implement and utilize an equipment maintenance information recording system for the authority. The authority shall establish a joint labor-management committee for the purpose of providing consultation and cooperation in the development of said equipment maintenance information recording system. Said systems reporting requirements shall include, but not be limited to, vehicle numbers, defects reported, defects found, cause determination, action taken, by whom, and duration of repair. Said system is to be developed, approved by the authority's board of directors, implemented in the automotive equipment maintenance department, and a report outlining said system filed in the office of the house clerk no later than the first Wednesday of January, nineteen hundred and eighty-two.

The clerk shall forward said report to the joint committees on transportation and post audit and oversight, and the report shall be reviewed by a subcommittee of the post audit and oversight committee, which shall be appointed by the chairman thereof.

Said subcommittee, in consultation with the transportation committee may make such recommendations as they deem necessary to the authority with regard to said information system.

Said systems will be initially implemented in the automotive department and upon acceptance by the authority initiated in all other equipment maintenance departments as it applies to said departments.

SECTION 17. Commencing with the commonwealth's fiscal year nineteen hundred and eighty-four, beginning on July first, nineteen hundred and eighty-three, the Massachusetts Bay Transportation Authority shall operate on a fiscal year cycle coinciding with that of the commonwealth.

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The board of directors of said authority shall prepare a plan to implement said fiscal year change and shall submit for approval said plan to the secretary of administration and finance not later than the first Wednesday of December, nineteen hundred and eighty-one.

Notwithstanding any general or special law to the contrary, commencing with the commonwealth's fiscal year nineteen hundred and eighty-four, all expenses of the authority shall be in accordance with an itemized budget. The authority, in consultation with the secretary of transportation and the advisory board, shall prepare and shall submit such budget for the ensuing fiscal year to the secretary and the advisory board not later than the date set by the commissioner of administration pursuant to section three of chapter twenty-nine of the General Laws for the submission of statements to the budget director.

The secretary shall review and make recommendations regarding such budget within thirty days after submission.

Within forty-five days after submission, the advisory board shall approve said budget as submitted or subject it to such itemized reductions therein as the advisory board shall deem appropriate. Such itemized reductions shall be accompanied by a clear delineation of the areas of services to be reduced and the degree of reduction of service including a statement by location, line, and mode of the level of maintainable service resulting from such itemized reduction. The advisory board shall vote on each item within the authority's budget and may subject the authority's proposed budget to itemized reductions as the advisory board may deem appropriate. The board of directors shall, no later than the first Wednesday in December file a copy of such budget with the governor. Said budget shall include all requests and recommendations of the authority for capital outlay programs and projects for the ensuing year.

Within three weeks after the convening of the general court the governor shall file a copy of the budget with the clerk of the house of representatives and the clerk of the senate. Said budget shall include all requests and recommendations of the authority for capital outlay programs and projects for the ensuing year.

The governor shall include as a line item within the budget submitted pursuant to Section 2 of Article LXIII of the Amendments to the Constitution his recommendation for the share of the net cost of service at the Massachusetts Bay Transportation Authority to be paid by the commonwealth.

SECTION 18. Notwithstanding the provisions of subsection (1) of section five of chapter one hundred and sixty-one A of the General Laws, chapter one hundred and fifty-one of the acts of nineteen hundred and seventy-nine, section twenty-seven C of

chapter twenty-nine of the General Laws and of section twenty A of chapter fifty-nine of the General Laws, the board of directors of the Massachusetts Bay Transportation Authority may by an affirmative vote of the directors, approve and restore to the budget for the calendar year nineteen hundred and eighty any or all itemized reductions which the advisory board may make or may have made in any budget or supplementary budget submitted to it; provided, however, that the amounts so approved and so restored to any such budgets shall not cause it to exceed the total sum of three hundred and forty-three million one hundred and sixty-six thousand eight hundred and forty-six dollars; and provided, further, that no amount in excess of three hundred and forty-three million dollars shall be spent unless the authority conducts its labor negotiations in accordance with chapter four hundred and five of the acts of nineteen hundred and seventy-eight. Said budget shall cover all expenditures incurred by the Massachusetts Bay Transportation Authority board of directors during calendar year nineteen hundred and eighty, including without limitation those costs incurred pursuant to Executive Order No. 189, issued on November eighteenth, nineteen hundred and eighty. The Local Aid Fund shall not be reduced by the amount of any funds restored pursuant to this section.

SECTION 19. In addition to the contract assistance authorized to be provided in section twenty-eight of chapter one hundred and sixty-one A of the General Laws, the commonwealth, acting by and through the executive office of administration and finance, may enter into an additional contract with the Massachusetts Bay Transportation Authority for contract assistance of a portion of the net cost of the calendar 1980 budget approved by the Advisory Board. In addition, for said year, the commonwealth shall provide assistance equal to the seventy-five per cent of the net cost of service in excess of three hundred and two million, one hundred and thirty thousand, three hundred and seventy-seven dollars authorized by the advisory board for operation of the authority for such year.

SECTION 20. One-third of said additional net cost of service assumed by the commonwealth pursuant to section fourteen C shall be included in any determination of total costs, charges, or fees, under the provisions of section twenty A of chapter fifty-nine of the General Laws, for the cities and towns within the jurisdiction of the authority.

SECTION 21. Section twenty A of chapter fifty-nine of the General Laws, as inserted by section twelve of chapter five hundred and eighty of the acts of nineteen hundred and eighty, shall apply to costs assessed upon member cities and towns of the Massachusetts Bay Transportation Authority, for the operation thereof, beginning calendar year nineteen hundred and eighty-one.

SECTION 22. The board of directors serving on the effective date of this act shall continue to serve until their successors are duly appointed.

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Secretary of the Commonwealth

SECTION 23. All positions vacant or which become vacant, on or after the effective date of this act, shall remain vacant; provided, that vacancies for which there exists a critical need may be filled upon certification of said critical need by the secretary of administration and finance; and provided, further, that said secretary shall report quarterly to the house and senate committees on ways and means the number, salary, title and job descriptions of all persons hired under the provisions of this section. No employee shall be terminated as part of any reduction in force, which result from enactment of this act, except in accordance with the provisions of the collective bargaining agreement in effect on the date of such termination.

SECTION 24. Section four of this act shall become inoperative on July first, nineteen hundred and eighty-three.

SECTION 25. The provisions of this act are severable, and if any of its provisions or an application thereof shall be held unconstitutional by any court of competent jurisdiction, the decision of such court shall not affect or impair any of the remaining provisions or other applications thereof.

Approved December 7, 1980.

EMERGENCY LETTER - December 8, 1980 @ 12:46 P. M.

VOTED by the Massachusetts Bay Transportation Authority's Board of Directors:

1. AN ACT relative to the granting of certain interests in land under the operation of the Massachusetts Bay Transportation Authority.
2. AN ACT relative to the granting of certain interests in land under Boston Common by the City of Boston to the Massachusetts Bay Transportation Authority in order to extend the subway platforms at Park Street Station.
3. AN ACT authorizing and directing the City of Boston, through its Parks and Recreation Commission, to convey to the Massachusetts Bay Transportation Authority, certain interests in parcels of land in the City of Boston for the purpose of constructing certain portions of the Massachusetts Bay Transportation Authority's Southwest Corridor Project.
4. AN ACT relative to the hiring for certain positions by the Massachusetts Bay Transportation Authority
5. AN ACT establishing a claims and indemnity procedure for the Massachusetts Bay Transportation Authority and the officers and employees thereof.
6. AN ACT relative to income tax credits for employees providing all or part of certain expenses for public transportation.
7. AN ACT relative to the transfer of all vehicular bridges carrying public ways over tracks or rights-of-way of railroad within the Commonwealth
8. AN ACT regulating smoking in public conveyances and facilities of the Massachusetts Bay Transportation Authority.
9. AN ACT authorizing the State Treasurer to borrow money to make payments to the Massachusetts Bay Transportation Authority.
10. AN ACT relative to public ways over tracks or rights-of-way of railroads within the Commonwealth.
11. AN ACT amending the law relative to the use and occupation of certain land in the City of Cambridge by the Massachusetts Bay Transportation Authority.
12. AN ACT relative to the payment of fuel and special fuels excises by the Massachusetts Bay Transportation Authority.
13. AN ACT relative to providing the Authority with the right to enter into an agreement for power contracting similar to those rights enjoyed by other utility companies.

LAWSUITS BETWEEN MBTA UNIONS AND THE MBTA INVOLVING
CHAPTER 405 of 1978 AND CHAPTER 581 of 1980

1. MBTA v Adams, Supreme Judicial Court No. 79-388
Suit by MBTA to vacate Fallon Arbitration Award holding that Chapter 405 of 1978 violates the §13(c) Agreement. Stayed pending final judgment in federal court.
2. Local 589 and Lodge 264 v MBTA, U.S. Supreme Court No. 81-1817
Suit by Local 589 to confirm Fallon Arbitration Award and enjoin implementation of Chapter 405 of the Acts of 1978 and Chapter 581 of the Acts of 1980. Cert. denied. Action still pending in U.S. District Court No. 79-2058-S.
3. MBTA v Adams, Mass. Appeals Court No. 82-402(Superior Court No. 38024)
MBTA Appeal of decision giving Local 589, rather than a private contractor, jurisdiction over "The Ride" for the elderly and handicapped. Cross-appeal by Local 589 seeking attorney's fees and adjudication of contempt. Appeal stayed pending action on MBTA's motion to dismiss cross appeal.
4. Gallahue, et al v MBTA, Superior Court No. 45919
Suit by twenty five unions seeking injunction against implementation of Chapter 581 of the Acts of 1980. Pending trial.
5. Boston Lodge 264 v MBTA, Appeals Court No. 82-230(Superior Court No. 51214)
Suit by Lodge 264 to compel MBTA to arbitrate grievance concerning MBTA's failure to pay C.O.L.A. based on the consumer price index following the expiration of the collective bargaining agreement in violation of Chapter 405 and 581. Complaint dismissed. Appeal pending.
6. Local 589 v MBTA, Superior Court No. 51582
Petition for Declaratory Relief against implementation of Chapter 581 of the Acts of 1980. Declaratory relief denied. Appeal pending.
7. Local 589 v MBTA, Superior Court No. 52672
Suit by Local 589 to enjoin hiring of part-time employees. Injunction denied.
8. Lodge 264 v MBTA, Superior Court No. 52762
Suit by Lodge 264 to enjoin MBTA from implementing changes in schedules of work for fare box repairmen. Injunction denied.
9. MBTA v Gallahue, Superior Court No. 52752
Suit against Local 589 to enjoin interference with part-time employees. Injunction granted. Motion for civil contempt granted.

10. Retirement Board v MBTA, Superior Court No. 53589
Suit by Retirement Board seeking retirement benefits for part-time employees. Speedy trial scheduled for November 1982.
11. MBTA v Gallahue, Superior Court No. 54416
Suit to enjoin strike over hiring part-time employees. Injunction granted.
12. MBTA v Alliance of Unions and Sheehan, Superior Court No. 55496
Suit by MBTA to vacate arbitration award awarding to member of Alliance of MBTA Unions drop back rights to a position in his former union, Local 103 IBEW.
13. MBTA v Local 589 and Cohen, Superior Court No. 55526
Suit by MBTA to vacate arbitration award awarding to former executive employee drop back rights to his prior position in Local 589. Motion to dismiss pending.
14. Local 589 v MBTA, Superior Court No. 55915
Suit by Local 589 to compel arbitration of a grievance concerning hiring part-time employees. Injunction denied.
15. Local 103 v MBTA, Suffolk Superior Court No. 55971
Suit by Local 103, member union of the Building and Construction Trades Council, seeking to enjoin the MBTA from allegedly violating seniority rights of Local 103 employees by restricting rights to bid on vacancies. Speedy trial pending.
16. Carpenters v Sheet Metal Workers and MBTA, Superior Court No. 56666
Jurisdictional dispute between two member unions of the Building and Construction Trades Council involving right of MBTA to assign work.

